



Veena Memorial PG College

(Affiliated to University of Kota, Kota & Recognized by DCE Rajasthan, NCTE New Delhi)

1.1.1: The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

Additional Information

INDEX

| S.N. | Name of Document |
|------|--|
| 1. | Lesson Plans |
| 2. | Copies of Answer Sheets for Internal Assessments |

Principal
Dr. Laxman Dhaked

वीणा मेमोरियल स्नातकोत्तर महाविद्यालय करौली


व्याख्यान योजना

कक्षा - बी.ए/बीएड प्रथम वर्ष

प्रश्नपत्र प्रथम - हिंदी काव्य

| क्रम संख्या | प्रकरण | व्याख्यानों की संख्या | सप्ताह |
|-------------|---|-----------------------|----------------|
| | इकाई - प्रथम | | |
| 1. | चंदबरदाई- पृथ्वीराज रासो [लघु संस्करण] सामान्य परिचय | 2 | 1 |
| 2. | छंद संख्या - 5,9,12,15,34,60,62,69 = | 5 | 1, 2 |
| 3. | कबीरदास का सामान्य परिचय | 2 | 2 |
| 4. | साखी: गुरुदेव को अंग, सुमिरन को अंग, विरह को अंग, परचा को अंग, निहकमी पतिव्रता को अंग कुल दोहा छंद = 20 | 7 | 3 |
| 5. | जायसी का सामान्य परिचय [जायसी ग्रंथावली ; सं. रामचंद्र शुक्ल से] मान सरोदक खण्ड | 7 | 3, 4 |
| | इकाई - द्वितीय | | |
| 6 | सूरदास का सामान्य परिचय [सूरसागर ; सं. धीरेन्द्र वर्मा] विनय तथा भक्ति, गोकुल लीला, वृन्दावन लीला राधा-कृष्ण, मथुरा गमन, उद्धव संदेश, द्वारिका चरित कुल छंद संख्या = 20 | 10 | 5, 6 |
| 7 | तुलसीदास [तुलसीदास ग्रंथावली] गीतावली-बालकाण्ड, अयोध्याकाण्ड, लंकाकाण्ड, विनयपत्रिका, कवितावली- अयोध्याकाण्ड कुल छंद संख्या = 12 | 10 | 6, 7, 8 |
| 8 | रसखान [रसखान रचनावली ; सं. विद्यानिवास मिश्र कुल छंद = 21 | 5 | 8 |
| 9 | मीरा [मीरा पदावली ; सं. परशुराम चतुर्वेदी कुल छंद संख्या = 19 | 5 | 9 |
| | इकाई तृतीय | | |
| 10 | नरोत्तमदास - सुदामा चरित [सम्पूर्ण] | 15 | 10, 11, 12 |
| | इकाई चतुर्थ | | |
| 11 | हिंदी साहित्य का इतिहास ; आदिकाल एवं भक्तिकाल | 18 | 12, 13, 14, 15 |
| | इकाई पंचम | | |
| 12 | काव्यांग परिचय ; शब्द शक्ति ; अभिधा, लक्षणा, व्यंजना काव्य गुण माधुर्य, ओज, प्रसाद काव्य दोष अलंकार | 18 | 15, 16, 17, 18 |


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कक्षा - बी.ए/बीएड प्रथम वर्ष

प्रश्नपत्र द्वितीय - कथा साहित्य

| क्रम संख्या | प्रकरण | व्याख्यानों की संख्या | सप्ताह |
|-------------|--|-----------------------|-------------------|
| | इकाई प्रथम | | |
| 1 | कहानियाँ : बंगमहिता - दुलाईवाली , प्रेमचंद ठाकुर का कुआँ, जयशंकर प्रसाद - आकाशदीप जैनेंद्र कुमार - पाजेब, सचिदानंद हीरानंद वात्साययन अन्जेय शरणदाता - | 12 | 1, 2 |
| | इकाई द्वितीय | | |
| 2 | कहानियाँ : यशपाल - परदा, उषा प्रियंवदा - वापसी, अमरकांत - डिप्टी कलकट्टरी, यादवेन्द्र शर्मा 'चन्द्र' -मैंहदी के फूल, चन्द्रधर शर्मा 'गुलेरी' - उसने कहा था | 12 | 3, 4 |
| | इकाई तृतीय | | |
| 3 | उपन्यास - धर्मवीर भारती - गुनाहों का देवता | 15 | 5, 6, 7 |
| | इकाई चतुर्थ | | |
| 4 | हिंदी कहानी एवं उपन्यास का इतिहास | 15 | 7, 8, 9 |
| | इकाई पंचम | | |
| 5 | कहानी एवं उपन्यास विधा : स्वरूप एवं तत्व | 18 | 10, 11, 12, 13 |


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कक्षा - बी.ए/बीएड द्वितीय वर्ष

प्रश्नपत्र द्वितीय - प्रयोजनमूलक हिंदी

| क्रम संख्या | प्रकरण | व्याख्यानों की संख्या | सप्ताह |
|-------------|--|-----------------------|------------|
| | इकाई - प्रथम | | |
| 1 | प्रयोजनमूलक हिंदी अभिप्राय और क्षेत्र, पत्रकारिता रूप और प्रकार, पत्रकार वार्ता | 15 | 1, 2, 3 |
| 2 | हिंदी पत्रकारिता का संक्षिप्त इतिहास | 3 | 3 |
| 3 | प्रमुख पत्र पत्रिकाएँ और पत्रकार | 12 | 4, 5 |
| | इकाई - द्वितीय | | |
| 4 | संपादन कला सम्पादकीय लेखन | 6 | 6 |
| 5 | रिपोर्टिंग प्रूफ - शोधन | 3 | 7 |
| 6 | साक्षत्कार, प्रेस प्रबंधन | 3 | 7 |
| 7 | प्रेस कानून और आचार संहिता | 6 | 8 |
| | इकाई - तृतीय | | |
| 8 | संचार माध्यम लेखन | 6 | 9 |
| 9 | संचार माध्यम का स्वरूप मुद्रण श्रव्य, दृश्य, इन्टरनेट | 6 | 10 |
| 10 | संचार माध्यमों की प्रकृति और चरित्र | 6 | 11 |
| 11 | विज्ञापन लेखन - उद्देश्य और स्वरूप तथा मासिक - विन्यास | 6 | 12 |
| 12 | रेडियो लेखन श्रव्य भाषा की प्रकृति, रेडियो के विविध पक्ष - उद्घोषणा, समाचार, नाटक, एवं रूपक, फीचर, रिपोर्ट, संयोजन | 12 | 13, 14 |
| | इकाई - चतुर्थ | | |
| 13 | टेलीविजन एवं फिल्म लेखन दृश्य माध्यमों की भाषा और सामग्री संयोजन पार्श्ववाचन | 9 | 15, 16 |
| 14 | पटकथा लेखन, संवाद लेखन, टेलीड्रामा एवं डॉक्यूमेंट्री साहित्य कृतियों का दृश्यों में रूपांतरण इन्टरनेट : सामग्री -सृजन एवं संयोजन | 12 | 16, 17, 18 |
| | इकाई - पंचम | | |
| 15 | अनुवाद महत्त्व और स्वरूप प्रक्रिया प्रकार, अनुवाद और समतुल्यता | 6 | 19, 20 |
| 16 | अनुवाद समीक्षा, अनुवाद की प्रकृति, अनुवाद की समस्याएँ | 6 | 20, 21 |
| 17 | पारिभाषिक शब्दावली के अनुवाद की समस्याएँ साहित्यानुवाद की समस्याएँ | 3 | 21 |

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कक्षा - बी.ए/बीएड द्वितीय वर्ष

प्रश्नपत्र प्रथम - हिंदी साहित्य (हिंदी काव्य)

| क्रम संख्या | प्रकरण | व्याख्यानों की संख्या | सप्ताह |
|-------------|---|-----------------------|--------------------|
| | इकाई - प्रथम | | |
| 1 | केशवदास [संक्षिप्त रामचन्द्रिका : सं. लाला भगवान दीन] बालकाण्ड, अयोध्याकांड, अरण्यकांड, सुन्दरकाण्ड, लंकाकाण्ड, उत्तरकाण्ड कुल छंद संख्या = 121 | 9 | 1, 2 |
| 2 | बिहारी [बिहारी रत्नाकर : सं. जगन्नाथ दास रत्नाकर] कुल छंद संख्या 35 | 9 | 2, 3 |
| | इकाई - द्वितीय | | |
| 3 | घनानन्द [घनानन्द कवित्त सं. विश्वनाथ प्रसाद मिश्र] | 6 | 4 |
| 4 | भूषण [भूषण ग्रंथावली सं. विश्वनाथ प्रसाद मिश्र] | 9 | 5, 6 |
| 5 | सूर्यमल्ल मिश्रण - वीर सतसई प्रारम्भ के 50 छंद | 9 | 6, 7 |
| | इकाई - तृतीय | | |
| 6 | जगन्नाथदास रत्नाकर - उदव शतक [सम्पूर्ण] | 18 | 8, 9, 10 |
| | इकाई - चतुर्थ | | |
| 7 | हिंदी साहित्य का इतिहास : रीतिकाल | 21 | 11, 12, 13, 14, |
| | इकाई - पंचम | | |
| 8 | काव्य रीति - रस - रस का स्वरूप, अवयव एवं रस लक्षण, विश्लेषण एवं निष्पत्ति हिंदी के प्रमुख आचार्य एवं उनका चिंतन | 21 | 14, 15, 16, 17 |


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कक्षा - बी.ए/बीएड तृतीय वर्ष

प्रश्नपत्र प्रथम - आधुनिक हिंदी कविता

| S.NO. | प्रकरण | व्याख्यानों की संख्या | सप्ताह |
|-------|--|-----------------------|---------|
| | इकाई - प्रथम | | |
| 1. | मैथिलीशरण गुप्त का सामान्य परिचय | 2 | 1 |
| 2. | [i] द्वापर से - विधूता, [ii] यशोधरा से - यशोधरा 5 एवं 6 | 10 | 1, 2 |
| 3. | जयशंकर प्रसाद : आँसू - 19 छंद, लहर से 3 गीत एवं 1 कविता 1. ले चल वहा भुलावा देकर 2. बीती विभावरी जाग री 3. मेरी आँखों की पुतली में 4. एक कविता -3 पेशोलो की प्रतिध्वनि | 15 | 3, 4, 5 |
| 4. | सूर्यकांत त्रिपाठी 'निराला' 1. जूही की कली 2. बादल राग 3. तोड़ती पत्थर 4. स्नेह निर्झर वह गया है | 9 | 5, 6 |
| | इकाई - द्वितीय | | |
| 5. | सुमित्रा नंदन पंत का व्यक्तित्व एवं कृतित्व | 2 | 7 |
| 6. | 1. प्रथम रश्मि [वीणा से] 2. आँसू की बालिका [पल्लव से] | 5 | 7, 8 |
| 7. | 3. मौन निमंत्रण [पल्लव से] 4. द्रुत झरो [युगान्त से] | 5 | 8 |
| 8. | महादेवी वर्मा का सामान्य परिचय | 2 | 9 |
| 9. | 1. जो तुम आ जाते एक बार | 2 | 9 |
| 10. | 2. कौन तुम मेरे हृदय में | 3 | 9, 10 |
| 11. | 3. मधुर मधुर मेरे दीपक जल | 2 | 10 |
| 12. | 4. मैं नीर भरी दुःख की बदली | 3 | 10 |
| 13. | नागार्जुन का सामान्य परिचय | 2 | 11 |
| 14. | 1. सिंदूर तिलकित भाल 2. हरिजन गाथा | 5 | 11, 12 |
| 15. | 3. सत्य 4. बहुत दिनों के बाद | 5 | 12 |
| | इकाई - तृतीय | | |
| 16. | सच्चिदानंद हीरानंद वात्सयायन अज्ञेय का सामान्य परिचय | 2 | 13 |
| 17. | 1. आज थका हिय हरिल मेरा 2. सागर मुद्रा -2 | 5 | 13, 14 |
| 18. | 2. नदी के दीप 4. कितनी नावों में कितनी बार | 5 | 14 |
| 19. | गजानन माधव मुक्तिबोध का सामान्य परिचय | 2 | 15 |
| 20. | 1. ब्रह्मराक्षस 2. कल जो हमने चर्चा की थी | 7 | 15, 16 |
| 21. | धूमिल का सामान्य परिचय | 1 | 16 |
| 22. | 1. मोचीराम 2. पटकथा | 5 | 16, 17 |
| 23. | रघुवीर सहाय का सामान्य परिचय | 1 | 17 |
| 24. | 1. रामदास 2. अधिनायक 3. आत्महत्या के विरुद्ध | 11 | 17, 18, |

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| | इकाई चतुर्थ | | |
| 25 | आधुनिक हिंदी कविता का इतिहास : वाद और प्रवृत्तियाँ | 12 | 19, 20 |
| | इकाई - पंचम | | |
| 26 | आधुनिक हिंदी कविता के वैचारिक आधार एवं तत्त्व - मानववाद, विकासवाद, | 12 | 21, 22 |
| 27 | आधुनिकता, मार्क्सवाद, मनोविश्लेषण, असितवाद, फेट्टेसी, मिथक, प्रतीक | 6 | 23 |


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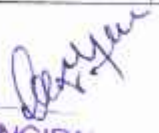
व्याख्यान योजना

कक्षा - बी.ए/बीएड तृतीय वर्ष

प्रश्नपत्र - द्वितीय : नाटक और निबन्ध

| S.NO. | प्रकरण | व्याख्यानों की संख्या | सप्ताह |
|-------|--|-----------------------|---------------|
| | इकाई प्रथम | | |
| 1 | नाटक आषाढ़ का एक दिन - मोहन राकेश कबीरा खड़ा बाजार में - भीष्म साहनी | 15 | 1, 2, 3 |
| | इकाई द्वितीय | | |
| 2 | (क) निबन्ध संग्रह (निबंधों का सामान्य परिचय) | 3 | 3 |
| 3 | बालकृष्ण भट्ट - साहित्य जन - समूह के हृदय का विकास है | 3 | 4 |
| 4 | 1. चन्द्रधर शर्मा 'गुलेरी' - धर्म और समाज | 3 | 4 |
| 5 | 2. रामचंद्र शुक्ल - उत्साह | 5 | 5 |
| 6 | 4. हजारी प्रसाद द्विवेदी - देवदारु | 4 | 5, 6 |
| 7 | 5. महादेवी वर्मा - प्रणाम | 3 | 6 |
| | इकाई तृतीय | | |
| 8 | 1. अज्ञेय - सौन्दर्यबोध और शिवत्वबोध 2. नामवर सिंह - संस्कृति और सौन्दर्य | 9 | 7 |
| 9 | 3. निर्मल वर्मा - भारतीय संस्कृति और राष्ट्र | 3 | 7, 8 |
| 10 | 3. विद्यानिवास मिश्र - हल्दी दूब और दधि अच्छत | 3 | 9 |
| 11 | 4. कुबेरनाथ राय - मधुर मधुर मेरे रसराज | 3 | 9 |
| | इकाई चतुर्थ | | |
| 12 | हिंदी नाटक एवं रंगमंच तथा निबंध का इतिहास | 15 | 10, 11, 12 |
| | इकाई पंचम | | |
| 13 | 1. नाटक की विधा और उसके तत्त्व | 9 | 12, 13 |
| 14 | 2. निबंध विधा - स्वरूप और शैलियाँ | 9 | 14, 15 |


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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part I
 Session - 2022 - 23
 Subject - Sociology
 Paper I - Principles of Sociology

Tentative Plan for the Session 2022-23

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT – I | | |
| 01 | Nature of Sociology : Meaning of Sociology | 1 | I |
| 02 | The Sociological Perspective | 2 | I |
| 03 | Sociology and other Social Sciences | 3 | I |
| 04 | Scientific & Humanistic Orientation to Sociological Study | 3 | II |
| | UNIT – II | | |
| 05 | Basic Concepts : society | 3 | II |
| 06 | Basic Concepts : Community | 3 | III |
| 07 | Basic Concepts : Institution | 2 | III |
| 08 | Basic Concepts : Association | 2 | III, IV |
| 09 | Basic Concepts : group | 4 | IV, V |
| 10 | Basic Concepts : Social Structure | 3 | V, VI |
| 11 | Basic Concepts : Status and Role | 4 | VI |
| 12 | Institution : Family & Kinship | 4 | VII |
| 13 | Institution : Religion | 3 | VII, VIII |
| 14 | Institution : Education | 2 | VIII |
| | UNIT – III | | |
| 15 | The Individual & Society : Society | 2 | VIII |
| 16 | The Individual & Society : Culture | 3 | VIII, IX |
| 17 | The Individual & Society : Socialization | 4 | IX |
| 18 | Relation between individual and society | 2 | X |
| 19 | Social Control : Norms, Values and Sanctions | 4 | X |
| 20 | Social Stratification : Meaning, form & theories | 4 | XI |
| 21 | Social Mobility : Meaning, form & theories | 4 | XI, XII |
| | UNIT – IV | | |
| 22 | Social Change : meaning and types | 2 | XII |
| 23 | Social Change : Evolution | 2 | XII |
| 24 | Social Change : Revolution | 2 | XIII |
| 25 | Social Change : Progress | 2 | XIII |
| 26 | Social Change : Development | 2 | XIII |
| 27 | Factors of Social Change | 2 | XIV |
| 28 | Social Change theory of Ogburn | 2 | XIV |
| 29 | Social Change theory of Sorokin | 2 | XIV |
| 30 | Social Change theory of Karl Marx | 2 | XV |
| | UNIT – V | | |
| 31 | The uses of Sociology : Introduction to Applied Sociology | 2 | XV |
| 32 | Sociology and Social Problems | 3 | XV, XVI |
| 33 | Sociology and Social Change | 2 | XVI |
| 34 | Sociology & Social Policy and Social Action | 3 | XVI |


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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part I
 Session - 2022 - 23
 Subject - Sociology
 Paper II - Indian Society

Tentative Plan for the Session 2022-23

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| 01 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Language | 2 | I |
| 02 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Caste | 2 | I |
| 03 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Religious Beliefs and Practices | 2 | I |
| 04 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Cultural Patterns | 2 | II |
| | UNIT – II | | |
| 05 | The Textual and the Field-View of Indian Society | 3 | II |
| 06 | Concepts of Varna | 4 | II, III |
| 07 | Concepts of Ashram | 4 | III, IV |
| 08 | Concepts of Dharma | 3 | IV |
| 09 | Concepts of Karma | 2 | V |
| 10 | Concepts of Purushartha | 3 | V |
| 11 | The Significance of the Field-View | 3 | V, VI |
| | UNIT – III | | |
| 12 | Basic Institutions of Indian Society : Caste | 3 | VI |
| 13 | Basic Institutions of Indian Society : Kinship | 3 | VI, VII |
| 14 | Basic Institutions of Indian Society : Family | 3 | VII |
| 15 | Basic Institutions of Indian Society : Marriage | 4 | VII, VIII |
| 16 | Basic Institutions of Indian Society : Religion | 3 | VIII |
| 17 | Caste and Class: Meaning, Features and Changing Dimensions | 4 | IX |
| | UNIT – IV | | |
| 18 | The Structure and Composition of Indian Society: Villages | 3 | IX, X |
| 19 | The Structure and Composition of Indian Society: Towns | 3 | X |
| 20 | The Structure and Composition of Indian Society: Cities | 3 | X, XI |
| 21 | Rural-Urban Linkages | 2 | XI |
| 22 | Weaker Sections : Tribes | 3 | XI |
| 23 | Weaker Sections : Dalit | 3 | XII |
| 24 | Weaker Sections : Women | 3 | XII |
| 25 | Weaker Sections : Minorities | 2 | XIII |
| 26 | Population Profile and related issues | 3 | XIII |
| | UNIT – V | | |
| 27 | Process of Social Change: Sanskritisation | 3 | XIII, XIV |
| 28 | Process of Social Change: Westernisation | 3 | XIV |
| 29 | Process of Social Change: Urbanisation | 3 | XIV, XV |
| 30 | Planned Change and Transformation in India | 3 | XV |
| 31 | Nation - Building and National Identity | 3 | XV, XVI |

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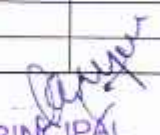
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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
Class - BA / BA.B.ED. Part II
Session - 2022 - 23
Subject - Sociology
Paper I - Social Thinkers

Tentative Plan for the Session 2022-23

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| 01 | Emile Durkheim: Social Fact | 6 | I |
| 02 | Emile Durkheim: Division of Labour | 6 | II |
| 03 | Emile Durkheim: Suicide | 6 | III |
| 04 | Emile Durkheim: Religion | 4 | IV |
| | UNIT – II | | |
| 05 | Max Weber: Social Action | 6 | IV, V |
| 06 | Max Weber: Bureaucracy | 6 | V, VI |
| 07 | Max Weber: Ideal Type | 4 | VI, VII |
| 08 | Max Weber: Religion | 4 | VII |
| | UNIT – III | | |
| 09 | Karl Marx: Class Struggle | 6 | VIII |
| 10 | Karl Marx: Dialectical Materialism | 6 | IX |
| 11 | Karl Marx: Surplus Value | 4 | X |
| 12 | Karl Marx: Alienation | 4 | X, XI |
| | UNIT – IV | | |
| 13 | Radha Kamal Mukherjee: Social Values | 4 | XI |
| 14 | Radha Kamal Mukherjee: Social Ecology | 4 | XII |
| 15 | Radha Kamal Mukherjee: Theory of Social Sciences | 4 | XII, XIII |
| | UNIT – V | | |
| 16 | G.S. Ghurye: Caste | 4 | XIII |
| 17 | G.S. Ghurye: Class | 4 | XIV |
| 18 | G.S. Ghurye: Occupation | 4 | XIV, XV |
| 19 | G.S. Ghurye: Social Tension | 4 | XV |


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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED, Part II
 Session - 2022 - 23
 Subject - Sociology
 Paper II - Social Anthropology

Tentative Plan for the Session 2022-23

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT – I | | |
| 01 | Social Anthropology : Definition | 1 | I |
| 02 | Social Anthropology : Nature & Scope | 3 | I |
| 03 | Approaches to the study of Social Anthropology : Structural - Functional approach | 3 | I, II |
| 04 | Approaches to the study of Social Anthropology : Evolutionary approach | 3 | II |
| 05 | Approaches to the study of Social Anthropology : Comparative approach | 3 | II, III |
| | UNIT – II | | |
| 06 | Marriage : Meaning & Types | 4 | III |
| 07 | Marriage : Theories and Methods of Mate selection | 4 | III, IV |
| 08 | Family : Meaning & Characteristics | 4 | IV, V |
| 09 | Family : Theories & Types | 4 | V |
| 10 | Family : Kinship Organisation | 4 | V, VI |
| | UNIT – III | | |
| 11 | Culture : Meaning and Theories of Culture Growth | 4 | VI, VII |
| 12 | Religion : Meaning and Theories of Origin | 4 | VII |
| 13 | Religion : Beliefs and Practices | 4 | VII, VIII |
| 14 | Magic : Meaning & Types | 3 | VIII |
| 15 | Magic : Relation with Religion | 2 | IX |
| | UNIT – IV | | |
| 16 | Primitive Economic System : Meaning | 2 | IX |
| 17 | Primitive Economic System : Characteristics | 4 | IX, X |
| 18 | Primitive Economic System : Functioning | 4 | X |
| 19 | Primitive Political System : Meaning | 2 | XI |
| 20 | Primitive Political System : Characteristics | 4 | XI |
| 21 | Primitive Political System : Primitive Law & Customs | 4 | XII |
| | UNIT – V | | |
| 22 | Problems of Tribes in India | 4 | XII, XIII |
| 23 | Tribal Development | 4 | XIII |
| 24 | Tribes in Rajasthan : Bhil | 3 | XIV |
| 25 | Tribes in Rajasthan : Meena | 3 | XIV |
| 26 | Tribes in Rajasthan : Garasiya | 3 | XV |
| 27 | Tribes in Rajasthan : Saharia | 3 | XV |


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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2022 - 23
 Subject - Sociology
 Paper I - Survey Methods in Social Investigations

Tentative Plan for the Session 2022-23

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT - I | | |
| | Scientific Study of Social Phenomena | | |
| 01 | Natural Sciences & Social Sciences : Relationship | 3 | I |
| 02 | Natural Sciences & Social Sciences : Debate | 3 | I |
| 03 | Social Survey : Meaning | 2 | II |
| 04 | Social Survey : Nature | 4 | II |
| 05 | Social Research : Meaning | 2 | III |
| 06 | Social Research : Nature | 4 | III |
| 07 | Scientific Method : Meaning | 2 | IV |
| 08 | Scientific Method : Stages | 2 | IV |
| 09 | Scientific Method : Importance | 3 | IV, V |
| | UNIT - II | | |
| | Logic of Social Research | | |
| 10 | Objectivity & Subjectivity in Sociological Inquiry | 3 | V |
| 11 | Hypothesis : Meaning | 2 | V |
| 12 | Hypothesis : Types | 2 | VI |
| 13 | Hypothesis : Formulation Process | 2 | VI |
| 14 | Primary Data : Meaning and Forms | 3 | VI, VII |
| 15 | Primary Data : Sources | 3 | VII |
| 16 | Secondary Data : Meaning and Forms | 3 | VII, VIII |
| 17 | Secondary Data : Sources | 3 | VIII |
| | UNIT - III | | |
| | Tools and Techniques for Data Collection | | |
| 18 | Observation | 3 | VIII, IX |
| 19 | Interview | 2 | IX |
| 20 | Questionnaire | 3 | IX |
| 21 | Schedule | 2 | X |
| 22 | Case Study Method | 3 | X |
| | UNIT - IV | | |
| | Procedure of Selecting Representative Units | | |
| 23 | Sampling : Meaning | 2 | X, XI |
| 24 | Sampling : Types | 4 | XI |
| 25 | Sampling : Methods for Sample Selection | 4 | XI, XII |
| 26 | Sampling : Its limitations | 2 | XII |
| 27 | Content Analysis | 4 | XII, XIII |
| | UNIT - V | | |
| | Quantitative Issues in Social Research | | |
| 28 | Tabular Presentation of Data : Bivariate | 2 | XIII |
| 29 | Tabular Presentation of Data : Multivariate | 2 | XIII, XIV |
| 30 | Statistical Averages : Meaning and Types | 2 | XIV |
| 31 | Statistical Averages : Calculation of Mean | 3 | XIV |
| 32 | Statistical Averages : Calculation of Median | 3 | XV |
| 33 | Statistical Averages : Calculation of Mode | 3 | XV |

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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2022 - 23
 Subject - Sociology
 Paper II - Social Problems in Contemporary India

Tentative Plan for the Session 2022-23

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| | Social Problems: Some Conceptual Issues | | |
| 01 | Social Problems & Social Disorganisation : Meaning | 3 | I |
| 02 | Social Problems & Social Disorganisation : Relations | 2 | I |
| 03 | Social Problems : Theoretical Perspectives | 3 | I, II |
| 04 | Social Problems : Types | 2 | II |
| 05 | Social Problems : Factors | 3 | II, III |
| | UNIT - II | | |
| | Structural Problems in Contemporary India | | |
| 06 | Rural Problems | 6 | III, IV |
| 07 | Gender Disparity | 3 | IV |
| 08 | Communalism | 3 | IV, V |
| 09 | The Problems of Minorities | 3 | V |
| 10 | Problems of Deprived Social Categories : Scheduled Caste | 3 | V, VI |
| 11 | Problems of Deprived Social Categories : Scheduled Tribes | 3 | VI |
| | UNIT - III | | |
| | Familial Problems in Contemporary India | | |
| 12 | Dowry | 3 | VI, VII |
| 13 | Divorce | 3 | VII |
| 14 | Child Marriage | 2 | VII |
| 15 | Problems of Elderly | 3 | VIII |
| 16 | Problems of Youth in India | 3 | VIII |
| 17 | Aids Problem | 3 | IX |
| | UNIT - IV | | |
| | Disorganizational Problems in Contemporary India | | |
| 18 | Crime | 4 | IX, X |
| 19 | Juvenile Delinquency | 4 | X |
| 20 | Corruption | 3 | X, XI |
| 21 | Drug Addiction | 3 | XI |
| 22 | Terrorism | 3 | XI, XII |
| 23 | Casteism | 3 | XII |
| | UNIT - V | | |
| | Development Problems in Contemporary India | | |
| 24 | Poverty | 4 | XII, XIII |
| 25 | Unemployment | 4 | XIII, XIV |
| 26 | Illiteracy | 3 | XIV |
| 27 | Environmental Pollution | 3 | XIV, XV |
| 28 | Problems of Slums | 3 | XV |
| 29 | Development Induced Displacement | 3 | XV, XVI |
| 30 | National Defecation Campaign | 3 | XVI |

Veena Memorial PG College, Karauli (Raj.)
 Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part I
 Session - 2021 - 22
 Subject - Sociology
 Paper I - Principles of Sociology

Tentative Plan for the Session 2021-22

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| 01 | Nature of Sociology : Meaning of Sociology | 1 | I |
| 02 | The Sociological Perspective | 2 | I |
| 03 | Sociology and other Social Sciences | 3 | I |
| 04 | Scientific & Humanistic Orientation to Sociological Study | 3 | II |
| | UNIT - II | | |
| 05 | Basic Concepts : society | 3 | II |
| 06 | Basic Concepts : Community | 3 | III |
| 07 | Basic Concepts : Institution | 2 | III |
| 08 | Basic Concepts : Association | 2 | III, IV |
| 09 | Basic Concepts : group | 4 | IV, V |
| 10 | Basic Concepts : Social Structure | 3 | V, VI |
| 11 | Basic Concepts : Status and Role | 4 | VI |
| 12 | Institution : Family & Kinship | 4 | VII |
| 13 | Institution : Religion | 3 | VII, VIII |
| 14 | Institution : Education | 2 | VIII |
| | UNIT - III | | |
| 15 | The Individual & Society : Society | 2 | VIII |
| 16 | The Individual & Society : Culture | 3 | VIII, IX |
| 17 | The Individual & Society : Socialization | 4 | IX |
| 18 | Relation between individual and society | 2 | X |
| 19 | Social Control : Norms, Values and Sanctions | 4 | X |
| 20 | Social Stratification : Meaning, form & theories | 4 | XI |
| 21 | Social Mobility : Meaning, form & theories | 4 | XI, XII |
| | UNIT - IV | | |
| 22 | Social Change : meaning and types | 2 | XII |
| 23 | Social Change : Evolution | 2 | XII |
| 24 | Social Change : Revolution | 2 | XIII |
| 25 | Social Change : Progress | 2 | XIII |
| 26 | Social Change : Development | 2 | XIII |
| 27 | Factors of Social Change | 2 | XIV |
| 28 | Social Change theory of Ogburn | 2 | XIV |
| 29 | Social Change theory of Sorokin | 2 | XIV |
| 30 | Social Change theory of Karl Marx | 2 | XV |
| | UNIT - V | | |
| 31 | The uses of Sociology : Introduction to Applied Sociology | 2 | XV |
| 32 | Sociology and Social Problems | 3 | XV, XVI |
| 33 | Sociology and Social Change | 2 | XVI |
| 34 | Sociology & Social Policy and Social Action | 3 | XVI |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA, B.ED. Part I
 Session - 2021 - 22
 Subject - Sociology
 Paper II - Indian Society

Tentative Plan for the Session 2021-22

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| 01 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Language | 2 | I |
| 02 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Caste | 2 | I |
| 03 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Religious Beliefs and Practices | 2 | I |
| 04 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Cultural Patterns | 2 | II |
| | UNIT – II | | |
| 05 | The Textual and the Field-View of Indian Society | 3 | II |
| 06 | Concepts of Varna | 4 | II, III |
| 07 | Concepts of Ashram | 4 | III, IV |
| 08 | Concepts of Dharma | 3 | IV |
| 09 | Concepts of Karma | 2 | V |
| 10 | Concepts of Purushartha | 3 | V |
| 11 | The Significance of the Field-View | 3 | V, VI |
| | UNIT – III | | |
| 12 | Basic Institutions of Indian Society : Caste | 3 | VI |
| 13 | Basic Institutions of Indian Society : Kinship | 3 | VI, VII |
| 14 | Basic Institutions of Indian Society : Family | 3 | VII |
| 15 | Basic Institutions of Indian Society : Marriage | 4 | VII, VIII |
| 16 | Basic Institutions of Indian Society : Religion | 3 | VIII |
| 17 | Caste and Class: Meaning, Features and Changing Dimensions | 4 | IX |
| | UNIT – IV | | |
| 18 | The Structure and Composition of Indian Society: Villages | 3 | IX, X |
| 19 | The Structure and Composition of Indian Society: Towns | 3 | X |
| 20 | The Structure and Composition of Indian Society: Cities | 3 | X, XI |
| 21 | Rural-Urban Linkages | 2 | XI |
| 22 | Weaker Sections : Tribes | 3 | XI |
| 23 | Weaker Sections : Dalit | 3 | XII |
| 24 | Weaker Sections : Women | 3 | XII |
| 25 | Weaker Sections : Minorities | 2 | XIII |
| 26 | Population Profile and related issues | 3 | XIII |
| | UNIT – V | | |
| 27 | Process of Social Change: Sanskritisation | 3 | XIII, XIV |
| 28 | Process of Social Change: Westernisation | 3 | XIV |
| 29 | Process of Social Change: Urbanisation | 3 | XIV, XV |
| 30 | Planned Change and Transformation in India | 3 | XV |
| 31 | Nation Building and National Identity | 3 | XV, XVI |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
Class - BA / BA.B.ED. Part II
Session - 2021 - 22
Subject - Sociology
Paper I - Social Thinkers

Tentative Plan for the Session 2021-22

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT - I | | |
| 01 | Emile Durkheim: Social Fact | 6 | I |
| 02 | Emile Durkheim: Division of Labour | 6 | II |
| 03 | Emile Durkheim: Suicide | 6 | III |
| 04 | Emile Durkheim: Religion | 4 | IV |
| | UNIT - II | | |
| 05 | Max Weber: Social Action | 6 | IV, V |
| 06 | Max Weber: Bureaucracy | 6 | V, VI |
| 07 | Max Weber: Ideal Type | 4 | VI, VII |
| 08 | Max Weber: Religion | 4 | VII |
| | UNIT - III | | |
| 09 | Karl Marx: Class Struggle | 6 | VIII |
| 10 | Karl Marx: Dialectical Materialism | 6 | IX |
| 11 | Karl Marx: Surplus Value | 4 | X |
| 12 | Karl Marx: Alienation | 4 | X, XI |
| | UNIT - IV | | |
| 13 | Radha Kamal Mukherjee: Social Values | 4 | XI |
| 14 | Radha Kamal Mukherjee: Social Ecology | 4 | XII |
| 15 | Radha Kamal Mukherjee: Theory of Social Sciences | 4 | XII, XIII |
| | UNIT - V | | |
| 16 | G.S. Ghurye: Caste | 4 | XIII |
| 17 | G.S. Ghurye: Class | 4 | XIV |
| 18 | G.S. Ghurye: Occupation | 4 | XIV, XV |
| 19 | G.S. Ghurye: Social Tension | 4 | XV |

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Veena Memorial PG College, Karauli (Raj.)


Lecturer Name - Aryind Kumar Patel
 Class - BA / BA.B.ED. Part II
 Session - 2021 - 22
 Subject - Sociology
 Paper II - Social Anthropology

Tentative Plan for the Session 2021-22

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT – I | | |
| 01 | Social Anthropology : Definition | 1 | I |
| 02 | Social Anthropology : Nature & Scope | 3 | I |
| 03 | Approaches to the study of Social Anthropology : Structural - Functional approach | 3 | I, II |
| 04 | Approaches to the study of Social Anthropology : Evolutionary approach | 3 | II |
| 05 | Approaches to the study of Social Anthropology : Comparative approach | 3 | II, III |
| | | | |
| | UNIT – II | | |
| 06 | Marriage : Meaning & Types | 4 | III |
| 07 | Marriage : Theories and Methods of Mate selection | 4 | III, IV |
| 08 | Family : Meaning & Characteristics | 4 | IV, V |
| 09 | Family : Theories & Types | 4 | V |
| 10 | Family : Kinship Organisation | 4 | V, VI |
| | | | |
| | UNIT – III | | |
| 11 | Culture : Meaning and Theories of Culture Growth | 4 | VI, VII |
| 12 | Religion : Meaning and Theories of Origin | 4 | VII |
| 13 | Religion : Beliefs and Practices | 4 | VII, VIII |
| 14 | Magic : Meaning & Types | 3 | VIII |
| 15 | Magic : Relation with Religion | 2 | IX |
| | | | |
| | UNIT – IV | | |
| 16 | Primitive Economic System : Meaning | 2 | IX |
| 17 | Primitive Economic System : Characteristics | 4 | IX, X |
| 18 | Primitive Economic System : Functioning | 4 | X |
| 19 | Primitive Political System : Meaning | 2 | XI |
| 20 | Primitive Political System : Characteristics | 4 | XI |
| 21 | Primitive Political System : Primitive Law & Customs | 4 | XII |
| | | | |
| | UNIT – V | | |
| 22 | Problems of Tribes in India | 4 | XII, XIII |
| 23 | Tribal Development | 4 | XIII |
| 24 | Tribes in Rajasthan : Bhil | 3 | XIV |
| 25 | Tribes in Rajasthan : Meena | 3 | XIV |
| 26 | Tribes in Rajasthan : Garasiya | 3 | XV |
| 27 | Tribes in Rajasthan : Saharia | 3 | XV |


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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2021 - 22
 Subject - Sociology
 Paper I - Survey Methods in Social Investigations

Tentative Plan for the Scassion 2021-22

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| | Scientific Study of Social Phenomena | | |
| 01 | Natural Sciences & Social Sciences : Relationship | 3 | I |
| 02 | Natural Sciences & Social Sciences : Debate | 3 | I |
| 03 | Social Survey : Meaning | 2 | II |
| 04 | Social Survey : Nature | 4 | II |
| 05 | Social Research : Meaning | 2 | III |
| 06 | Social Research : Nature | 4 | III |
| 07 | Scientific Method : Meaning | 2 | IV |
| 08 | Scientific Method : Stages | 2 | IV |
| 09 | Scientific Method : Importance | 3 | IV,V |
| | UNIT – II | | |
| | Logic of Social Research | | |
| 10 | Objectivity & Subjectivity in Sociological Inquiry | 3 | V |
| 11 | Hypothesis : Meaning | 2 | V |
| 12 | Hypothesis : Types | 2 | VI |
| 13 | Hypothesis : Formulation Process | 2 | VI |
| 14 | Primary Data : Meaning and Forms | 3 | VI, VII |
| 15 | Primary Data : Sources | 3 | VII |
| 16 | Secondary Data : Meaning and Forms | 3 | VII, VIII |
| 17 | Secondary Data : Sources | 3 | VIII |
| | UNIT – III | | |
| | Tools and Techniques for Data Collection | | |
| 18 | Observation | 3 | VIII, IX |
| 19 | Interview | 2 | IX |
| 20 | Questionnaire | 3 | IX |
| 21 | Schedule | 2 | X |
| 22 | Case Study Method | 3 | X |
| | UNIT – IV | | |
| | Procedure of Selecting Representative Units | | |
| 23 | Sampling : Meaning | 2 | X, XI |
| 24 | Sampling : Types | 4 | XI |
| 25 | Sampling : Methods for Sample Selection | 4 | XI, XII |
| 26 | Sampling : Its limitations | 2 | XII |
| 27 | Content Analysis | 4 | XII, XIII |
| | UNIT – V | | |
| | Quantitative Issues in Social Research | | |
| 28 | Tabular Presentation of Data : Bivariate | 2 | XIII |
| 29 | Tabular Presentation of Data : Multivariate | 2 | XIII, XIV |
| 30 | Statistical Averages : Meaning and Types | 2 | XIV |
| 31 | Statistical Averages : Calculation of Mean | 3 | XIV |
| 32 | Statistical Averages : Calculation of Median | 3 | XV |
| 33 | Statistical Averages : Calculation of Mode | 3 | XV |


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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2021 - 22
 Subject - Sociology
 Paper II - Social Problems in Contemporary India

Tentative Plan for the Session 2021-22

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| | Social Problems: Some Conceptual Issues | | |
| | | 3 | I |
| 01 | Social Problems & Social Disorganisation : Meaning | 2 | I |
| 02 | Social Problems & Social Disorganisation : Relations | 3 | I, II |
| 03 | Social Problems : Theoretical Perspectives | 2 | II |
| 04 | Social Problems : Types | 3 | II, III |
| 05 | Social Problems : Factors | | |
| | UNIT - II | | |
| | Structural Problems in Contemporary India | | |
| | | 6 | III, IV |
| 06 | Rural Problems | 3 | IV |
| 07 | Gender Disparity | 3 | IV, V |
| 08 | Communalism | 3 | V |
| 09 | The Problems of Minorities | 3 | V, VI |
| 10 | Problems of Deprived Social Categories : Scheduled Caste | 3 | VI |
| 11 | Problems of Deprived Social Categories : Scheduled Tribes | | |
| | UNIT - III | | |
| | Familial Problems in Contemporary India | | |
| | | 3 | VI, VII |
| 12 | Dowry | 3 | VII |
| 13 | Divorce | 2 | VII |
| 14 | Child Marriage | 3 | VIII |
| 15 | Problems of Elderly | 3 | VIII |
| 16 | Problems of Youth in India | 3 | IX |
| 17 | Aids Problem | | |
| | UNIT - IV | | |
| | Disorganizational Problems in Contemporary India | | |
| | | 4 | IX, X |
| 18 | Crime | 4 | X |
| 19 | Juvenile Delinquency | 3 | X, XI |
| 20 | Corruption | 3 | XI |
| 21 | Drug Addiction | 3 | XI, XII |
| 22 | Terrorism | 3 | XII |
| 23 | Casteism | | |
| | UNIT - V | | |
| | Development Problems in Contemporary India | | |
| | | 4 | XII, XIII |
| 24 | Poverty | 4 | XIII, XIV |
| 25 | Unemployment | 3 | XIV |
| 26 | Illiteracy | 3 | XIV, XV |
| 27 | Environmental Pollution | 3 | XV |
| 28 | Problems of Slums | 3 | XV, XVI |
| 29 | Development Induced Displacement | 3 | XVI |
| 30 | National Defecation Campaign | | |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part I
 Session - 2020 - 21
 Subject - Sociology
 Paper I - Principles of Sociology

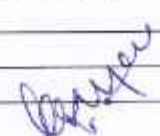
Tentative Plan for the Session 2020-21

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT – I | | |
| 01 | Nature of Sociology : Meaning of Sociology | 1 | I |
| 02 | The Sociological Perspective | 2 | I |
| 03 | Sociology and other Social Sciences | 3 | I |
| 04 | Scientific & Humanistic Orientation to Sociological Study | 3 | II |
| | UNIT – II | | |
| 05 | Basic Concepts : society | 3 | II |
| 06 | Basic Concepts : Community | 3 | III |
| 07 | Basic Concepts : Institution | 2 | III |
| 08 | Basic Concepts : Association | 2 | III, IV |
| 09 | Basic Concepts : group | 4 | IV, V |
| 10 | Basic Concepts : Social Structure | 3 | V, VI |
| 11 | Basic Concepts : Status and Role | 4 | VI |
| 12 | Institution : Family & Kinship | 4 | VII |
| 13 | Institution : Religion | 3 | VII, VIII |
| 14 | Institution : Education | 2 | VIII |
| | UNIT – III | | |
| 15 | The Individual & Society : Society | 2 | VIII |
| 16 | The Individual & Society : Culture | 3 | VIII, IX |
| 17 | The Individual & Society : Socialization | 4 | IX |
| 18 | Relation between individual and society | 2 | X |
| 19 | Social Control : Norms, Values and Sanctions | 4 | X |
| 20 | Social Stratification : Meaning, form & theories | 4 | XI |
| 21 | Social Mobility : Meaning, form & theories | 4 | XI, XII |
| | UNIT – IV | | |
| 22 | Social Change : meaning and types | 2 | XII |
| 23 | Social Change : Evolution | 2 | XII |
| 24 | Social Change : Revolution | 2 | XIII |
| 25 | Social Change : Progress | 2 | XIII |
| 26 | Social Change : Development | 2 | XIII |
| 27 | Factors of Social Change | 2 | XIV |
| 28 | Social Change theory of Ogburn | 2 | XIV |
| 29 | Social Change theory of Sorokin | 2 | XIV |
| 30 | Social Change theory of Karl Marx | 2 | XV |
| | UNIT – V | | |
| 31 | The uses of Sociology : Introduction to Applied Sociology | 2 | XV |
| 32 | Sociology and Social Problems | 3 | XV, XVI |
| 33 | Sociology and Social Change | 2 | XVI |
| 34 | Sociology & Social Policy and Social Action | 3 | XVI |


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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part I
 Session - 2020 - 21
 Subject - Sociology
 Paper II - Indian Society

Tentative Plan for the Session 2020-21

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| 01 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Language | 2 | I |
| 02 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Caste | 2 | I |
| 03 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Religious Beliefs and Practices | 2 | I |
| 04 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Cultural Patterns | 2 | II |
| | UNIT – II | | |
| 05 | The Textual and the Field-View of Indian Society | 3 | II |
| 06 | Concepts of Varna | 4 | II, III |
| 07 | Concepts of Ashram | 4 | III, IV |
| 08 | Concepts of Dharma | 3 | IV |
| 09 | Concepts of Karma | 2 | V |
| 10 | Concepts of Purushartha | 3 | V |
| 11 | The Significance of the Field-View | 3 | V, VI |
| | UNIT – III | | |
| 12 | Basic Institutions of Indian Society : Caste | 3 | VI |
| 13 | Basic Institutions of Indian Society : Kinship | 3 | VI, VII |
| 14 | Basic Institutions of Indian Society : Family | 3 | VII |
| 15 | Basic Institutions of Indian Society : Marriage | 4 | VII, VIII |
| 16 | Basic Institutions of Indian Society : Religion | 3 | VIII |
| 17 | Caste and Class: Meaning, Features and Changing Dimensions | 4 | IX |
| | UNIT – IV | | |
| 18 | The Structure and Composition of Indian Society: Villages | 3 | IX, X |
| 19 | The Structure and Composition of Indian Society: Towns | 3 | X |
| 20 | The Structure and Composition of Indian Society: Cities | 3 | X, XI |
| 21 | Rural-Urban Linkages | 2 | XI |
| 22 | Weaker Sections : Tribes | 3 | XI |
| 23 | Weaker Sections : Dalit | 3 | XII |
| 24 | Weaker Sections : Women | 3 | XII |
| 25 | Weaker Sections : Minorities | 2 | XIII |
| 26 | Population Profile and related issues | 3 | XIII |
| | UNIT – V | | |
| 27 | Process of Social Change: Sanskritisation | 3 | XIII, XIV |
| 28 | Process of Social Change: Westernisation | 3 | XIV |
| 29 | Process of Social Change: Urbanisation | 3 | XIV, XV |
| 30 | Planned Change and Transformation in India | 3 | XV |
| 31 | Nation - Building and National Identity | 3 | XV, XVI |

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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part II
 Session - 2020 - 21
 Subject - Sociology
 Paper I - Social Thinkers

Tentative Plan for the Session 2020-21

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| 01 | Emile Durkheim: Social Fact | 6 | I |
| 02 | Emile Durkheim: Division of Labour | 6 | II |
| 03 | Emile Durkheim: Suicide | 6 | III |
| 04 | Emile Durkheim: Religion | 4 | IV |
| | UNIT – II | | |
| 05 | Max Weber: Social Action | 6 | IV, V |
| 06 | Max Weber: Bureaucracy | 6 | V, VI |
| 07 | Max Weber: Ideal Type | 4 | VI, VII |
| 08 | Max Weber: Religion | 4 | VII |
| | UNIT – III | | |
| 09 | Karl Marx: Class Struggle | 6 | VIII |
| 10 | Karl Marx: Dialectical Materialism | 6 | IX |
| 11 | Karl Marx: Surplus Value | 4 | X |
| 12 | Karl Marx: Alienation | 4 | X, XI |
| | UNIT – IV | | |
| 13 | Radha Kamal Mukherjee: Social Values | 4 | XI |
| 14 | Radha Kamal Mukherjee: Social Ecology | 4 | XII |
| 15 | Radha Kamal Mukherjee: Theory of Social Sciences | 4 | XII, XIII |
| | UNIT – V | | |
| 16 | G.S. Ghurye: Caste | 4 | XIII |
| 17 | G.S. Ghurye: Class | 4 | XIV |
| 18 | G.S. Ghurye: Occupation | 4 | XIV, XV |
| 19 | G.S. Ghurye: Social Tension | 4 | XV |


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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part II
 Session - 2020 - 21
 Subject - Sociology
 Paper II - Social Anthropology

Tentative Plan for the Session 2020-21

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| 01 | Social Anthropology : Definition | 1 | I |
| 02 | Social Anthropology : Nature & Scope | 3 | I |
| 03 | Approaches to the study of Social Anthropology : Structural - Functional approach | 3 | I, II |
| 04 | Approaches to the study of Social Anthropology : Evolutionary approach | 3 | II |
| 05 | Approaches to the study of Social Anthropology : Comparative approach | 3 | II, III |
| | UNIT - II | | |
| 06 | Marriage : Meaning & Types | 4 | III |
| 07 | Marriage : Theories and Methods of Mate selection | 4 | III, IV |
| 08 | Family : Meaning & Characteristics | 4 | IV, V |
| 09 | Family : Theories & Types | 4 | V |
| 10 | Family : Kinship Organisation | 4 | V, VI |
| | UNIT - III | | |
| 11 | Culture : Meaning and Theories of Culture Growth | 4 | VI, VII |
| 12 | Religion : Meaning and Theories of Origin | 4 | VII |
| 13 | Religion : Beliefs and Practices | 4 | VII, VIII |
| 14 | Magic : Meaning & Types | 3 | VIII |
| 15 | Magic : Relation with Religion | 2 | IX |
| | UNIT - IV | | |
| 16 | Primitive Economic System : Meaning | 2 | IX |
| 17 | Primitive Economic System : Characteristics | 4 | IX, X |
| 18 | Primitive Economic System : Functioning | 4 | X |
| 19 | Primitive Political System : Meaning | 2 | XI |
| 20 | Primitive Political System : Characteristics | 4 | XI |
| 21 | Primitive Political System : Primitive Law & Customs | 4 | XII |
| | UNIT - V | | |
| 22 | Problems of Tribes in India | 4 | XII, XIII |
| 23 | Tribal Development | 4 | XIII |
| 24 | Tribes in Rajasthan : Bhil | 3 | XIV |
| 25 | Tribes in Rajasthan : Meena | 3 | XIV |
| 26 | Tribes in Rajasthan : Garasiya | 3 | XV |
| 27 | Tribes in Rajasthan : Saharia | 3 | XV |


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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2020 - 21
 Subject - Sociology
 Paper I - Survey Methods in Social Investigations

Tentative Plan for the Session 2020-21

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT - I | | |
| | Scientific Study of Social Phenomena | | |
| 01 | Natural Sciences & Social Sciences : Relationship | 3 | I |
| 02 | Natural Sciences & Social Sciences : Debate | 3 | I |
| 03 | Social Survey : Meaning | 2 | II |
| 04 | Social Survey : Nature | 4 | II |
| 05 | Social Research : Meaning | 2 | III |
| 06 | Social Research : Nature | 4 | III |
| 07 | Scientific Method : Meaning | 2 | IV |
| 08 | Scientific Method : Stages | 2 | IV |
| 09 | Scientific Method : Importance | 3 | IV,V |
| | UNIT - II | | |
| | Logic of Social Research | | |
| 10 | Objectivity & Subjectivity in Sociological Inquiry | 3 | V |
| 11 | Hypothesis : Meaning | 2 | V |
| 12 | Hypothesis : Types | 2 | VI |
| 13 | Hypothesis : Formulation Process | 2 | VI |
| 14 | Primary Data : Meaning and Forms | 3 | VI, VII |
| 15 | Primary Data : Sources | 3 | VII |
| 16 | Secondary Data : Meaning and Forms | 3 | VII, VIII |
| 17 | Secondary Data : Sources | 3 | VIII |
| | UNIT - III | | |
| | Tools and Techniques for Data Collection | | |
| 18 | Observation | 3 | VIII, IX |
| 19 | Interview | 2 | IX |
| 20 | Questionnaire | 3 | IX |
| 21 | Schedule | 2 | X |
| 22 | Case Study Method | 3 | X |
| | UNIT - IV | | |
| | Procedure of Selecting Representative Units | | |
| 23 | Sampling : Meaning | 2 | X, XI |
| 24 | Sampling : Types | 4 | XI |
| 25 | Sampling : Methods for Sample Selection | 4 | XI, XII |
| 26 | Sampling : Its limitations | 2 | XII |
| 27 | Content Analysis | 4 | XII, XIII |
| | UNIT - V | | |
| | Quantitative Issues in Social Research | | |
| 28 | Tabular Presentation of Data : Bivariate | 2 | XIII |
| 29 | Tabular Presentation of Data : Multivariate | 2 | XIII, XIV |
| 30 | Statistical Averages : Meaning and Types | 2 | XIV |
| 31 | Statistical Averages : Calculation of Mean | 3 | XIV |
| 32 | Statistical Averages : Calculation of Median | 3 | XV |
| 33 | Statistical Averages : Calculation of Mode | 3 | XV |

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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2020 - 21
 Subject - Sociology
 Paper II - Social Problems in Contemporary India

Tentative Plan for the Session 2020-21

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| | Social Problems: Some Conceptual Issues | | |
| 01 | Social Problems & Social Disorganisation : Meaning | 3 | I |
| 02 | Social Problems & Social Disorganisation : Relations | 2 | I |
| 03 | Social Problems : Theoretical Perspectives | 3 | I, II |
| 04 | Social Problems : Types | 2 | II |
| 05 | Social Problems : Factors | 3 | II, III |
| | UNIT - II | | |
| | Structural Problems in Contemporary India | | |
| 06 | Rural Problems | 6 | III, IV |
| 07 | Gender Disparity | 3 | IV |
| 08 | Communalism | 3 | IV, V |
| 09 | The Problems of Minorities | 3 | V |
| 10 | Problems of Deprived Social Categories : Scheduled Caste | 3 | V, VI |
| 11 | Problems of Deprived Social Categories : Scheduled Tribes | 3 | VI |
| | UNIT - III | | |
| | Familial Problems in Contemporary India | | |
| 12 | Dowry | 3 | VI, VII |
| 13 | Divorce | 3 | VII |
| 14 | Child Marriage | 2 | VII |
| 15 | Problems of Elderly | 3 | VIII |
| 16 | Problems of Youth in India | 3 | VIII |
| 17 | Aids Problem | 3 | IX |
| | UNIT - IV | | |
| | Disorganizational Problems in Contemporary India | | |
| 18 | Crime | 4 | IX, X |
| 19 | Juvenile Delinquency | 4 | X |
| 20 | Corruption | 3 | X, XI |
| 21 | Drug Addiction | 3 | XI |
| 22 | Terrorism | 3 | XI, XII |
| 23 | Casteism | 3 | XII |
| | UNIT - V | | |
| | Development Problems in Contemporary India | | |
| 24 | Poverty | 4 | XII, XIII |
| 25 | Unemployment | 4 | XIII, XIV |
| 26 | Illiteracy | 3 | XIV |
| 27 | Environmental Pollution | 3 | XIV, XV |
| 28 | Problems of Slums | 3 | XV |
| 29 | Development Induced Displacement | 3 | XV, XVI |
| 30 | National Defecation Campaign | 3 | XVI |

Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel

Class - BA / BA.B.ED. Part I

Session - 2019 - 20

Subject - Sociology

Paper I - Principles of Sociology

Tentative Plan for the Session 2019-20

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT – I | | |
| 01 | Nature of Sociology : Meaning of Sociology | 1 | I |
| 02 | The Sociological Perspective | 2 | I |
| 03 | Sociology and other Social Sciences | 3 | I |
| 04 | Scientific & Humanistic Orientation to Sociological Study | 3 | II |
| | UNIT – II | | |
| 05 | Basic Concepts : society | 3 | II |
| 06 | Basic Concepts : Community | 3 | III |
| 07 | Basic Concepts : Institution | 2 | III |
| 08 | Basic Concepts : Association | 2 | III, IV |
| 09 | Basic Concepts : group | 4 | IV, V |
| 10 | Basic Concepts : Social Structure | 3 | V, VI |
| 11 | Basic Concepts : Status and Role | 4 | VI |
| 12 | Institution : Family & Kinship | 4 | VII |
| 13 | Institution : Religion | 3 | VII, VIII |
| 14 | Institution : Education | 2 | VIII |
| | UNIT – III | | |
| 15 | The Individual & Society : Society | 2 | VIII |
| 16 | The Individual & Society : Culture | 3 | VIII, IX |
| 17 | The Individual & Society : Socialization | 4 | IX |
| 18 | Relation between individual and society | 2 | X |
| 19 | Social Control : Norms, Values and Sanctions | 4 | X |
| 20 | Social Stratification : Meaning, form & theories | 4 | XI |
| 21 | Social Mobility : Meaning, form & theories | 4 | XI, XII |
| | UNIT – IV | | |
| 22 | Social Change : meaning and types | 2 | XII |
| 23 | Social Change : Evolution | 2 | XII |
| 24 | Social Change : Revolution | 2 | XIII |
| 25 | Social Change : Progress | 2 | XIII |
| 26 | Social Change : Development | 2 | XIII |
| 27 | Factors of Social Change | 2 | XIV |
| 28 | Social Change theory of Ogburn | 2 | XIV |
| 29 | Social Change theory of Sorokin | 2 | XIV |
| 30 | Social Change theory of Karl Marx | 2 | XV |
| | UNIT – V | | |
| 31 | The uses of Sociology : Introduction to Applied Sociology | 2 | XV |
| 32 | Sociology and Social Problems | 3 | XV, XVI |
| 33 | Sociology and Social Change | 2 | XVI |
| 34 | Sociology & Social Policy and Social Action | 3 | XVI |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
Class - BA / BA.B.ED. Part I
Session - 2019-20
Subject - Sociology
Paper II - Indian Society

Tentative Plan for the Session 2019-20

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| 01 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Language | 2 | I |
| 02 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Caste | 2 | I |
| 03 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Religious Beliefs and Practices | 2 | I |
| 04 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Cultural Patterns | 2 | II |
| | UNIT – II | | |
| 05 | The Textual and the Field-View of Indian Society | 3 | II |
| 06 | Concepts of Varna | 4 | II, III |
| 07 | Concepts of Ashram | 4 | III, IV |
| 08 | Concepts of Dharma | 3 | IV |
| 09 | Concepts of Karma | 2 | V |
| 10 | Concepts of Purushartha | 3 | V |
| 11 | The Significance of the Field-View | 3 | V, VI |
| | UNIT – III | | |
| 12 | Basic Institutions of Indian Society : Caste | 3 | VI |
| 13 | Basic Institutions of Indian Society : Kinship | 3 | VI, VII |
| 14 | Basic Institutions of Indian Society : Family | 3 | VII |
| 15 | Basic Institutions of Indian Society : Marriage | 4 | VII, VIII |
| 16 | Basic Institutions of Indian Society : Religion | 3 | VIII |
| 17 | Caste and Class: Meaning, Features and Changing Dimensions | 4 | IX |
| | UNIT – IV | | |
| 18 | The Structure and Composition of Indian Society: Villages | 3 | IX, X |
| 19 | The Structure and Composition of Indian Society: Towns | 3 | X |
| 20 | The Structure and Composition of Indian Society: Cities | 3 | X, XI |
| 21 | Rural-Urban Linkages | 2 | XI |
| 22 | Weaker Sections : Tribes | 3 | XI |
| 23 | Weaker Sections : Dalit | 3 | XII |
| 24 | Weaker Sections : Women | 3 | XII |
| 25 | Weaker Sections : Minorities | 2 | XIII |
| 26 | Population Profile and related issues | 3 | XIII |
| | UNIT – V | | |
| 27 | Process of Social Change: Sanskritisation | 3 | XIII, XIV |
| 28 | Process of Social Change: Westernisation | 3 | XIV |
| 29 | Process of Social Change: Urbanisation | 3 | XIV, XV |
| 30 | Planned Change and Transformation in India | 3 | XV |
| 31 | Nation - Building and National Identity | 3 | XV, XVI |

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Class - BA / BA.B.ED. Part II
Session - 2019 - 20
Subject - Sociology
Paper I - Social Thinkers

Tentative Plan for the Session 2019-20

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT - I | | |
| 01 | Emile Durkheim: Social Fact | 6 | I |
| 02 | Emile Durkheim: Division of Labour | 6 | II |
| 03 | Emile Durkheim: Suicide | 6 | III |
| 04 | Emile Durkheim: Religion | 4 | IV |
| | UNIT - II | | |
| 05 | Max Weber: Social Action | 6 | IV, V |
| 06 | Max Weber: Bureaucracy | 6 | V, VI |
| 07 | Max Weber: Ideal Type | 4 | VI, VII |
| 08 | Max Weber: Religion | 4 | VII |
| | UNIT - III | | |
| 09 | Karl Marx: Class Struggle | 6 | VIII |
| 10 | Karl Marx: Dialectical Materialism | 6 | IX |
| 11 | Karl Marx: Surplus Value | 4 | X |
| 12 | Karl Marx: Alienation | 4 | X, XI |
| | UNIT - IV | | |
| 13 | Radha Kamal Mukherjee: Social Values | 4 | XI |
| 14 | Radha Kamal Mukherjee: Social Ecology | 4 | XII |
| 15 | Radha Kamal Mukherjee: Theory of Social Sciences | 4 | XII, XIII |
| | UNIT - V | | |
| 16 | G.S. Ghurye: Caste | 4 | XIII |
| 17 | G.S. Ghurye: Class | 4 | XIV |
| 18 | G.S. Ghurye: Occupation | 4 | XIV, XV |
| 19 | G.S. Ghurye: Social Tension | 4 | XV |


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Veena Memorial PG College, Karauli (Raj.)
 Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part II
 Session - 2019 - 20
 Subject - Sociology
 Paper II - Social Anthropology

Tentative Plan for the Scassion 2019-20

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| 01 | Social Anthropology : Definition | 1 | I |
| 02 | Social Anthropology : Nature & Scope | 3 | I |
| 03 | Approaches to the study of Social Anthropology : Structural - Functional approach | 3 | I, II |
| 04 | Approaches to the study of Social Anthropology : Evolutionary approach | 3 | II |
| 05 | Approaches to the study of Social Anthropology : Comparative approach | 3 | II, III |
| | UNIT - II | | |
| 06 | Marriage : Meaning & Types | 4 | III |
| 07 | Marriage : Theories and Methods of Mate selection | 4 | III, IV |
| 08 | Family : Meaning & Characteristics | 4 | IV, V |
| 09 | Family : Theories & Types | 4 | V |
| 10 | Family : Kinship Organisation | 4 | V, VI |
| | UNIT - III | | |
| 11 | Culture : Meaning and Theories of Culture Growth | 4 | VI, VII |
| 12 | Religion : Meaning and Theories of Origin | 4 | VII |
| 13 | Religion : Beliefs and Practices | 4 | VII, VIII |
| 14 | Magic : Meaning & Types | 3 | VIII |
| 15 | Magic : Relation with Religion | 2 | IX |
| | UNIT - IV | | |
| 16 | Primitive Economic System : Meaning | 2 | IX |
| 17 | Primitive Economic System : Characteristics | 4 | IX, X |
| 18 | Primitive Economic System : Functioning | 4 | X |
| 19 | Primitive Political System : Meaning | 2 | XI |
| 20 | Primitive Political System : Characteristics | 4 | XI |
| 21 | Primitive Political System : Primitive Law & Customs | 4 | XII |
| | UNIT - V | | |
| 22 | Problems of Tribes in India | 4 | XII, XIII |
| 23 | Tribal Development | 4 | XIII |
| 24 | Tribes in Rajasthan : Bhil | 3 | XIV |
| 25 | Tribes in Rajasthan : Meena | 3 | XIV |
| 26 | Tribes in Rajasthan : Garasiya | 3 | XV |
| 27 | Tribes in Rajasthan : Saharia | 3 | XV |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2019 - 20
 Subject - Sociology
 Paper I - Survey Methods in Social Investigations

Tentative Plan for the Session 2019-20

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| | Scientific Study of Social Phenomena | | |
| 01 | Natural Sciences & Social Sciences : Relationship | 3 | I |
| 02 | Natural Sciences & Social Sciences : Debate | 3 | I |
| 03 | Social Survey : Meaning | 2 | II |
| 04 | Social Survey : Nature | 4 | II |
| 05 | Social Research : Meaning | 2 | III |
| 06 | Social Research : Nature | 4 | III |
| 07 | Scientific Method : Meaning | 2 | IV |
| 08 | Scientific Method : Stages | 2 | IV |
| 09 | Scientific Method : Importance | 3 | IV,V |
| | UNIT – II | | |
| | Logic of Social Research | | |
| 10 | Objectivity & Subjectivity in Sociological Inquiry | 3 | V |
| 11 | Hypothesis : Meaning | 2 | V |
| 12 | Hypothesis : Types | 2 | VI |
| 13 | Hypothesis : Formulation Process | 2 | VI |
| 14 | Primary Data : Meaning and Forms | 3 | VI, VII |
| 15 | Primary Data : Sources | 3 | VII |
| 16 | Secondary Data : Meaning and Forms | 3 | VII, VIII |
| 17 | Secondary Data : Sources | 3 | VIII |
| | UNIT – III | | |
| | Tools and Techniques for Data Collection | | |
| 18 | Observation | 3 | VIII, IX |
| 19 | Interview | 2 | IX |
| 20 | Questionnaire | 3 | IX |
| 21 | Schedule | 2 | X |
| 22 | Case Study Method | 3 | X |
| | UNIT – IV | | |
| | Procedure of Selecting Representative Units | | |
| 23 | Sampling : Meaning | 2 | X, XI |
| 24 | Sampling : Types | 4 | XI |
| 25 | Sampling : Methods for Sample Selection | 4 | XI, XII |
| 26 | Sampling : Its limitations | 2 | XII |
| 27 | Content Analysis | 4 | XII, XIII |
| | UNIT – V | | |
| | Quantitative Issues in Social Research | | |
| 28 | Tabular Presentation of Data : Bivariate | 2 | XIII |
| 29 | Tabular Presentation of Data : Multivariate | 2 | XIII, XIV |
| 30 | Statistical Averages : Meaning and Types | 2 | XIV |
| 31 | Statistical Averages : Calculation of Mean | 3 | XIV |
| 32 | Statistical Averages : Calculation of Median | 3 | XV |
| 33 | Statistical Averages : Calculation of Mode | | XV |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
Class - BA / BA.B.ED. Part III
Session - 2019 - 20
Subject - Sociology
Paper II - Social Problems in Contemporary India

Tentative Plan for the Session 2019-20

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| | Social Problems: Some Conceptual Issues | | |
| | | 3 | I |
| 01 | Social Problems & Social Disorganisation : Meaning | 2 | I |
| 02 | Social Problems & Social Disorganisation : Relations | 3 | I, II |
| 03 | Social Problems : Theoretical Perspectives | 2 | II |
| 04 | Social Problems : Types | 3 | II, III |
| 05 | Social Problems : Factors | | |
| | UNIT - II | | |
| | Structural Problems in Contemporary India | 6 | III, IV |
| 06 | Rural Problems | 3 | IV |
| 07 | Gender Disparity | 3 | IV, V |
| 08 | Communalism | 3 | V |
| 09 | The Problems of Minorities | 3 | V, VI |
| 10 | Problems of Deprived Social Categories : Scheduled Caste | 3 | VI |
| 11 | Problems of Deprived Social Categories : Scheduled Tribes | | |
| | UNIT - III | | |
| | Familial Problems in Contemporary India | 3 | VI, VII |
| 12 | Dowry | 3 | VII |
| 13 | Divorce | 2 | VII |
| 14 | Child Marriage | 3 | VIII |
| 15 | Problems of Elderly | 3 | VIII |
| 16 | Problems of Youth in India | 3 | IX |
| 17 | Aids Problem | | |
| | UNIT - IV | | |
| | Disorganizational Problems in Contemporary India | 4 | IX, X |
| 18 | Crime | 4 | X |
| 19 | Juvenile Delinquency | 3 | X, XI |
| 20 | Corruption | 3 | XI |
| 21 | Drug Addiction | 3 | XI, XII |
| 22 | Terrorism | 3 | XII |
| 23 | Casteism | | |
| | UNIT - V | | |
| | Development Problems in Contemporary India | 4 | XII, XIII |
| 24 | Poverty | 4 | XIII, XIV |
| 25 | Unemployment | 3 | XIV |
| 26 | Illiteracy | 3 | XIV, XV |
| 27 | Environmental Pollution | 3 | XV |
| 28 | Problems of Slums | 3 | XV, XVI |
| 29 | Development Induced Displacement | 3 | XVI |
| 30 | National Defecation Campaign | | |

Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part I
 Session - 2018 - 19
 Subject - Sociology
 Paper I - Principles of Sociology

Tentative Plan for the Session 2018 - 19

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| 01 | Nature of Sociology : Meaning of Sociology | 1 | I |
| 02 | The Sociological Perspective | 2 | I |
| 03 | Sociology and other Social Sciences | 3 | I |
| 04 | Scientific & Humanistic Orientation to Sociological Study | 3 | II |
| | UNIT - II | | |
| 05 | Basic Concepts : society | 3 | II |
| 06 | Basic Concepts : Community | 3 | III |
| 07 | Basic Concepts : Institution | 2 | III |
| 08 | Basic Concepts : Association | 2 | III, IV |
| 09 | Basic Concepts : group | 4 | IV, V |
| 10 | Basic Concepts : Social Structure | 3 | V, VI |
| 11 | Basic Concepts : Status and Role | 4 | VI |
| 12 | Institution : Family & Kinship | 4 | VII |
| 13 | Institution : Religion | 3 | VII, VIII |
| 14 | Institution : Education | 2 | VIII |
| | UNIT - III | | |
| 15 | The Individual & Society : Society | 2 | VIII |
| 16 | The Individual & Society : Culture | 3 | VIII, IX |
| 17 | The Individual & Society : Socialization | 4 | IX |
| 18 | Relation between individual and society | 2 | X |
| 19 | Social Control : Norms, Values and Sanctions | 4 | X |
| 20 | Social Stratification : Meaning, form & theories | 4 | XI |
| 21 | Social Mobility : Meaning, form & theories | 4 | XI, XII |
| | UNIT - IV | | |
| 22 | Social Change : meaning and types | 2 | XII |
| 23 | Social Change : Evolution | 2 | XII |
| 24 | Social Change : Revolution | 2 | XIII |
| 25 | Social Change : Progress | 2 | XIII |
| 26 | Social Change : Development | 2 | XIII |
| 27 | Factors of Social Change | 2 | XIV |
| 28 | Social Change theory of Ogburn | 2 | XIV |
| 29 | Social Change theory of Sorokin | 2 | XIV |
| 30 | Social Change theory of Karl Marx | 2 | XV |
| | UNIT - V | | |
| 31 | The uses of Sociology : Introduction to Applied Sociology | 2 | XV |
| 32 | Sociology and Social Problems | 3 | XV, XVI |
| 33 | Sociology and Social Change | 2 | XVI |
| 34 | Sociology & Social Policy and Social Action | 3 | XVI |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
Class - BA / BA.B.ED. Part I
Session - 2018 - 19
Subject - Sociology
Paper II - Indian Society

Tentative Plan for the Session 2018 - 19

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT - I | | |
| 01 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Language | 2 | I |
| 02 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Caste | 2 | I |
| 03 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Religious Beliefs and Practices | 2 | I |
| 04 | Cultural and Ethnic Diversity: Historically embedded diversities in respect to Cultural Patterns | 2 | II |
| | UNIT - II | | |
| 05 | The Textual and the Field-View of Indian Society | 3 | II |
| 06 | Concepts of Varna | 4 | II, III |
| 07 | Concepts of Ashram | 4 | III, IV |
| 08 | Concepts of Dharma | 3 | IV |
| 09 | Concepts of Karma | 2 | V |
| 10 | Concepts of Purushartha | 3 | V |
| 11 | The Significance of the Field-View | 3 | V, VI |
| | UNIT - III | | |
| 12 | Basic Institutions of Indian Society : Caste | 3 | VI |
| 13 | Basic Institutions of Indian Society : Kinship | 3 | VI, VII |
| 14 | Basic Institutions of Indian Society : Family | 3 | VII |
| 15 | Basic Institutions of Indian Society : Marriage | 4 | VII, VIII |
| 16 | Basic Institutions of Indian Society : Religion | 3 | VIII |
| 17 | Caste and Class: Meaning, Features and Changing Dimensions | 4 | IX |
| | UNIT - IV | | |
| 18 | The Structure and Composition of Indian Society: Villages | 3 | IX, X |
| 19 | The Structure and Composition of Indian Society: Towns | 3 | X |
| 20 | The Structure and Composition of Indian Society: Cities | 3 | X, XI |
| 21 | Rural-Urban Linkages | 2 | XI |
| 22 | Weaker Sections : Tribes | 3 | XI |
| 23 | Weaker Sections : Dalit | 3 | XII |
| 24 | Weaker Sections : Women | 3 | XII |
| 25 | Weaker Sections : Minorities | 2 | XIII |
| 26 | Population Profile and related issues | 3 | XIII |
| | UNIT - V | | |
| 27 | Process of Social Change: Sanskritisation | 3 | XIII, XIV |
| 28 | Process of Social Change: Westernisation | 3 | XIV |
| 29 | Process of Social Change: Urbanisation | 3 | XIV, XV |
| 30 | Planned Change and Transformation in India | 3 | XV |
| 31 | Nation - Building and National Identity | 3 | XV, XVI |

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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part II
 Session - 2018 - 19
 Subject - Sociology
 Paper I - Social Thinkers

Tentative Plan for the Session 2018 - 19

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT - I | | |
| 01 | Emile Durkheim: Social Fact | 6 | I |
| 02 | Emile Durkheim: Division of Labour | 6 | II |
| 03 | Emile Durkheim: Suicide | 6 | III |
| 04 | Emile Durkheim: Religion | 4 | IV |
| | UNIT - II | | |
| 05 | Max Weber: Social Action | 6 | IV, V |
| 06 | Max Weber: Bureaucracy | 6 | V, VI |
| 07 | Max Weber: Ideal Type | 4 | VI, VII |
| 08 | Max Weber: Religion | 4 | VII |
| | UNIT - III | | |
| 09 | Karl Marx: Class Struggle | 6 | VIII |
| 10 | Karl Marx: Dialectical Materialism | 6 | IX |
| 11 | Karl Marx: Surplus Value | 4 | X |
| 12 | Karl Marx: Alienation | 4 | X, XI |
| | UNIT - IV | | |
| 13 | Radha Kamal Mukherjee: Social Values | 4 | XI |
| 14 | Radha Kamal Mukherjee: Social Ecology | 4 | XII |
| 15 | Radha Kamal Mukherjee: Theory of Social Sciences | 4 | XII, XIII |
| | UNIT - V | | |
| 16 | G.S. Ghurye: Caste | 4 | XIII |
| 17 | G.S. Ghurye: Class | 4 | XIV |
| 18 | G.S. Ghurye: Occupation | 4 | XIV, XV |
| 19 | G.S. Ghurye: Social Tension | 4 | XV |


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Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part II
 Session - 2018 - 19
 Subject - Sociology
 Paper II - Social Anthropology

Tentative Plan for the Session 2018 - 19

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| | | 1 | I |
| 01 | Social Anthropology : Definition | 3 | I |
| 02 | Social Anthropology : Nature & Scope | 3 | I, II |
| 03 | Approaches to the study of Social Anthropology : Structural - Functional approach | 3 | II |
| 04 | Approaches to the study of Social Anthropology : Evolutionary approach | 3 | II, III |
| 05 | Approaches to the study of Social Anthropology : Comparative approach | | |
| | UNIT - II | | |
| | | 4 | III |
| 06 | Marriage : Meaning & Types | 4 | III, IV |
| 07 | Marriage : Theories and Methods of Mate selection | 4 | IV, V |
| 08 | Family : Meaning & Characteristics | 4 | V |
| 09 | Family : Theories & Types | 4 | V, VI |
| 10 | Family : Kinship Organisation | | |
| | UNIT - III | | |
| | | 4 | VI, VII |
| 11 | Culture : Meaning and Theories of Culture Growth | 4 | VII |
| 12 | Religion : Meaning and Theories of Origin | 4 | VII, VIII |
| 13 | Religion : Beliefs and Practices | 3 | VIII |
| 14 | Magic : Meaning & Types | 2 | IX |
| 15 | Magic : Relation with Religion | | |
| | UNIT - IV | | |
| | | 2 | IX |
| 16 | Primitive Economic System : Meaning | 4 | IX, X |
| 17 | Primitive Economic System : Characteristics | 4 | X |
| 18 | Primitive Economic System : Functioning | 2 | XI |
| 19 | Primitive Political System : Meaning | 4 | XI |
| 20 | Primitive Political System : Characteristics | 4 | XII |
| 21 | Primitive Political System : Primitive Law & Customs | | |
| | UNIT - V | | |
| | | 4 | XII, XIII |
| 22 | Problems of Tribes in India | 4 | XIII |
| 23 | Tribal Development | 3 | XIV |
| 24 | Tribes in Rajasthan : Bhil | 3 | XIV |
| 25 | Tribes in Rajasthan : Meena | 3 | XV |
| 26 | Tribes in Rajasthan : Garasiya | 3 | XV |
| 27 | Tribes in Rajasthan : Saharia | | |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2018 - 19
 Subject - Sociology
 Paper I - Survey Methods in Social Investigations

Tentative Plan for the Seassion 2018 - 19

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| | Scientific Study of Social Phenomena | | |
| 01 | Natural Sciences & Social Sciences : Relationship | 3 | I |
| 02 | Natural Sciences & Social Sciences : Debate | 3 | I |
| 03 | Social Survey : Meaning | 2 | II |
| 04 | Social Survey : Nature | 4 | II |
| 05 | Social Research : Meaning | 2 | III |
| 06 | Social Research : Nature | 4 | III |
| 07 | Scientific Method : Meaning | 2 | IV |
| 08 | Scientific Method : Stages | 2 | IV |
| 09 | Scientific Method : Importance | 3 | IV,V |
| | UNIT – II | | |
| | Logic of Social Research | | |
| 10 | Objectivity & Subjectivity in Sociological Inquiry | 3 | V |
| 11 | Hypothesis : Meaning | 2 | V |
| 12 | Hypothesis : Types | 2 | VI |
| 13 | Hypothesis : Formulation Process | 2 | VI |
| 14 | Primary Data : Meaning and Forms | 3 | VI, VII |
| 15 | Primary Data : Sources | 3 | VII |
| 16 | Secondary Data : Meaning and Forms | 3 | VII, VIII |
| 17 | Secondary Data : Sources | 3 | VIII |
| | UNIT – III | | |
| | Tools and Techniques for Data Collection | | |
| 18 | Observation | 3 | VIII, IX |
| 19 | Interview | 2 | IX |
| 20 | Questionnaire | 3 | IX |
| 21 | Schedule | 2 | X |
| 22 | Case Study Method | 3 | X |
| | UNIT – IV | | |
| | Procedure of Selecting Representative Units | | |
| 23 | Sampling : Meaning | 2 | X, XI |
| 24 | Sampling : Types | 4 | XI |
| 25 | Sampling : Methods for Sample Selection | 4 | XI, XII |
| 26 | Sampling : Its limitations | 2 | XII |
| 27 | Content Analysis | 4 | XII, XIII |
| | UNIT – V | | |
| | Quantitative Issues in Social Research | | |
| 28 | Tabular Presentation of Data : Bivariate | 2 | XIII |
| 29 | Tabular Presentation of Data : Multivariate | 2 | XIII, XIV |
| 30 | Statistical Averages : Meaning and Types | 2 | XIV |
| 31 | Statistical Averages : Calculation of Mean | 3 | XIV |
| 32 | Statistical Averages : Calculation of Median | 3 | XV |
| 33 | Statistical Averages : Calculation of Mode | 3 | XV |

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Veena Memorial PG College, Karauli (Raj.)

Lecturer Name - Arvind Kumar Patel
 Class - BA / BA.B.ED. Part III
 Session - 2018 - 19
 Subject - Sociology
 Paper II - Social Problems in Contemporary India

Tentative Plan for the Session 2018 - 19

| S. NO. | TOPIC | NO. OF LECTURE | WEEK |
|--------|---|----------------|-----------|
| | UNIT - I | | |
| | Social Problems: Some Conceptual Issues | | |
| | | 3 | I |
| 01 | Social Problems & Social Disorganisation : Meaning | 2 | I |
| 02 | Social Problems & Social Disorganisation : Relations | 3 | I, II |
| 03 | Social Problems : Theoretical Perspectives | 2 | II |
| 04 | Social Problems : Types | 3 | II, III |
| 05 | Social Problems : Factors | | |
| | UNIT - II | | |
| | Structural Problems in Contemporary India | 6 | III, IV |
| 06 | Rural Problems | 3 | IV |
| 07 | Gender Disparity | 3 | IV, V |
| 08 | Communalism | 3 | V |
| 09 | The Problems of Minorities | 3 | V, VI |
| 10 | Problems of Deprived Social Categories : Scheduled Caste | 3 | VI |
| 11 | Problems of Deprived Social Categories : Scheduled Tribes | | |
| | UNIT - III | | |
| | Familial Problems in Contemporary India | 3 | VI, VII |
| 12 | Dowry | 3 | VII |
| 13 | Divorce | 2 | VII |
| 14 | Child Marriage | 3 | VIII |
| 15 | Problems of Elderly | 3 | VIII |
| 16 | Problems of Youth in India | 3 | IX |
| 17 | Aids Problem | | |
| | UNIT - IV | | |
| | Disorganizational Problems in Contemporary India | 4 | IX, X |
| 18 | Crime | 4 | X |
| 19 | Juvenile Delinquency | 3 | X, XI |
| 20 | Corruption | 3 | XI |
| 21 | Drug Addiction | 3 | XI, XII |
| 22 | Terrorism | 3 | XII |
| 23 | Casteism | | |
| | UNIT - V | | |
| | Development Problems in Contemporary India | 4 | XII, XIII |
| 24 | Poverty | 4 | XIII, XIV |
| 25 | Unemployment | 3 | XIV |
| 26 | Illiteracy | 3 | XIV, XV |
| 27 | Environmental Pollution | 3 | XV |
| 28 | Problems of Slums | 3 | XV, XVI |
| 29 | Development Induced Displacement | 3 | XVI |
| 30 | National Defecation Campaign | | |

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VEENA MEMORIAL P.G. COLLEGE, KARAU LI

Teachers Name:- Dheeraj Kumar Wadiya

Session -2022-23

Subject/ Papers:- History of India (upto 1200 A.D.)

Class:- B.A., B.A.B.ED.-I

| S.No. | TOPIC | No. of Lecture | Week |
|-------|--|----------------|-----------|
| | UNIT-I | | |
| 1. | Main Sources of ancient Indian history | 3 | I |
| 2. | Prehistoric Cultures in india, Harappan | 3 | I |
| 3. | Culture-Evolution , Vinagar | 5 | II |
| 4. | The Problem of city planning, economy, religion | 5 | II,III |
| 5. | And relationship with other people, | 2 | III |
| 6. | Society, state, meaning and condition in vedic essence | 4 | IV |
| | UNIT-II | | |
| 7. | The rise of Magadha to Nando | 3 | IV,V |
| 8. | Jainism and Buddhism | 4 | V |
| 9. | Magadha Empire and role | 2 | V,VI |
| 10. | Of Chandragupta in Indian culture | 3 | VI |
| 11. | Ashoka Nl pia, Dhamma | 2 | VI |
| 12. | Solar Administration | 4 | VII |
| 13. | Mauryan art and architecture due to the | 1 | VII |
| 14. | Decline of the Maurya Empire | 4 | VII,VIII |
| | UNIT-III | | |
| 15. | Satavahana era and foreign powers | 3 | VIII |
| 16. | Satakni, son of Gautami | 1 | IX |
| 17. | Pushyamitra | 1 | IX |
| 18. | Rudradaman | 1 | IX |
| 19. | Contributions and achievements of Kanishka | 4 | IX,X |
| 20. | Economic copy of the pre- Gupta period | 2 | X |
| 21. | In relation to trade-commerce | 1 | X |
| 22. | Kushan Arts and Crafts | 4 | X,XI |
| 23. | Sangam Age | 4 | XI |
| | UNIT-IV | | |
| 24. | Gupta Dynasty - chandraguptar | 1 | XII |
| 25. | Samudragupta | 3 | XII |
| 26. | Chandragupta II | 2 | XII |
| 27. | Skandagupta | 1 | XIII |
| 28. | Features of Gupta Administration | 3 | XIII |
| 29. | Land Revenue System | 2 | XIII |
| 30. | Gupta Economy | 1 | XIV |
| 31. | Trade and Commerce | 1 | XIV |
| 32. | Gupta Art, Architectural | 4 | XIV |
| 33. | Literature philosophy, Science and Technology | 5 | XV |
| | UNIT-V | | |
| 34. | Formation and Expansion of the Indo-Vardhan Empire of | 3 | XV,XVI |
| 35. | The post-Gupta period | 2 | XVI |
| 36. | Government Religion, Art Culture-Pallav | 2 | XVI |
| 37. | Chola Chalukyas and Rashtrakutas | 4 | XVII |
| 38. | Features of Chola-Chalukya Administration | 2 | XVII |
| 39. | Outspoken struggle | 2 | XVIII |
| 40. | Vigraharaj Chauhan | 1 | XVIII |
| 41. | Bhoj Parmar | 1 | XVIII |
| 42. | Achievements of Mihikul | 1 | XVIII |
| 43. | Reasons for the fragmentation of Rajput states | 2 | XVIII,XIX |

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VEENA MEMORIAL P.G. COLLEGE, KARALI

Teachers Name:- Dheeraj Kumar Wadiya

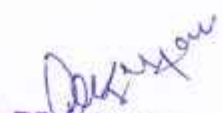
Session -20.....

Subject/ Papers:- II Outline of History of Western World

Class:- B.A., B.A.B.ED.-I

| S.No. | TOPIC | No. of Lecture | WEEK |
|-----------------|---|----------------|----------|
| UNIT-I | | | |
| 1. | Beginning of New Age | 1 | I |
| 2. | Renaissance- | 1 | I |
| 3. | Meaning ,Reasons, Expansion | 4 | I |
| 4. | Development of Literature Art Science | 4 | II |
| 5. | Important of renaissance | 3 | II,III |
| 6. | Reformation movement- Cause | 3 | III |
| 7. | Contribution of early reformer, Martin Luther | 2 | III |
| 8. | Progress results and impact of the movement | 2 | IV |
| 9. | America's war of Independence | 5 | IV,V |
| UNIT-II | | | |
| 10. | Agricultural and Industrial | 5 | V |
| 11. | French Revolution | 10 | VI,VII |
| 12. | Napoleon Bonaparte | 5 | VII,VIII |
| UNIT-III | | | |
| 13. | Era of reaction | 2 | VIII |
| 14. | Unification of Italy | 3 | VIII,IX |
| 15. | Unification of Germany | 3 | IX |
| 16. | Crimea War and Berlin Conference | 4 | IX,X |
| 17. | Exploitation of Asia, Africa | 3 | X |
| 18. | Latin American States by Europeans | 2 | XI |
| UNIT-IV | | | |
| 19. | World war-I cause, Events, consequences | 5 | XI,XII |
| 20. | Versailles Treaty | 1 | XII |
| 21. | Russian Revolution | 2 | XII |
| 22. | Worldwide Economic Depression | 2 | XII |
| 23. | Zazism and Fascism | 4 | XIII |
| UNIT-V | | | |
| 24. | World war -II Cause Events, Consequences | 5 | XIII,XIV |
| 25. | League of Nations | 2 | XIV |
| 26. | United Nations organization | 2 | XIV,XV |
| 27. | Cold war | 2 | XV |
| 28. | Non-Aligned Movement | 2 | XV |
| 29. | Dissolution of the Soviet Union | 7 | XV,XVI |


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VEENA MEMORIAL P.G. COLLEGE, KARAULI

Teachers Name:- Dheeraj Kumar Wadiya

Session -2022-23

Subject/ Papers:- I Medieval India

Class:- B.A., B.A.B.ED.-II

| S.No. | TOPIC | No. of Lecture | Week |
|-----------------|---|----------------|----------|
| UNIT-I | | | |
| 1. | (A) Turkish invasion and Rajput resistance | 3 | I |
| 2. | (B) Establishment of Delhi Sultanate | 3 | I |
| 3. | Muhammad Ghori | 2 | II |
| 4. | Ilutmish | 2 | II |
| 5. | Rajiya | 2 | II |
| 6. | Balwan | 2 | III |
| 7. | (C) Khilji Imperialism | 3 | III |
| 8. | Expansion in Northern India | 3 | III,IV |
| 9. | Expansion in Southern India | 3 | IV,V |
| 10. | (D) Economic policies of Alauddin Khilji | 2 | V |
| UNIT-II | | | |
| 11. | Evaluation of Muhammad bin Tughluq's | 2 | V |
| 12. | Plans as a Failure Ruler | 3 | VI |
| 13. | Firoz Tughlaq Agricultural | 2 | VI |
| 14. | Reforms public works | 2 | VI,VII |
| 15. | Vijayanagara and the Bahmani empire because | 2 | VII |
| 16. | Of their drinking | 2 | VII |
| 17. | The social condition of the Sultanate | 3 | VII,VIII |
| UNIT-III | | | |
| 18. | Political life condition only at the time of Babur's invasion | 3 | VIII |
| 19. | Founding of the Mughal Empire | 3 | VIII,IX |
| 20. | The literary status of Babur | 2 | IX |
| 21. | Humayun's initial difficulties | 2 | IX |
| 22. | Due to failure | 2 | X |
| 23. | Sher shar Empire Expansion | 3 | X |
| 24. | Expansion and Consolidation of the Mughal Empire under Akbar | 4 | X,XI |
| UNIT-IV | | | |
| 25. | Jahangir | 2 | XI |
| 26. | Jahangir and Mewar | 2 | XI,XII |
| 27. | Role of Nur Jahan in the Mughal Court | 2 | XII |
| 28. | Shahjahan's time | 2 | XII |
| 29. | Aurangzeb's Southern Policy | 2 | XII,XIII |
| 30. | Decline of the Mughal Empire | 2 | XIII |
| 31. | The Rise of the Marathas | 2 | XIII |
| 32. | Achievements of Shivaji | 2 | XIII,XIV |
| 33. | Administration | 2 | XIV |
| UNIT-V | | | |
| 34. | Religious policy of Mughals | 1 | XIV |
| 35. | Rajput Policy | 1 | XIV |
| 36. | Mughal Literary | 3 | XIV,XV |

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|-----|------------------------------|---|------------|
| 37. | Painting | 2 | XV |
| 38. | Mughal Administration | 4 | XV,XVI |
| 39. | Mansabdari System | 2 | XVI |
| 40. | Land Revenue Management | 2 | XVI |
| 41. | Medieval Bhakti Movement | 3 | XVII |
| 42. | Sufi Saints | 2 | XVII |
| 43. | Medieval Economic Conditions | 2 | XVII,XVIII |
| 44. | Trade and Commerce | 3 | XVIII |


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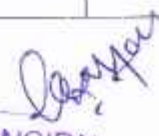
Teachers Name:- Dheeraj Kumar Wadiya

Subject/ Papers:- History-II (Raj. History)

Class:- B.A., B.A.B.ED.-II

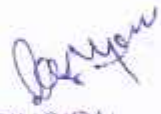
| S.No. | TOPIC | No. of Lecture | Week |
|-------|---|----------------|----------|
| | UNIT-I | | |
| 1. | An outline of proto-historic culture | 3 | I |
| 2. | Kalibanga | 2 | I |
| 3. | Ahar | 2 | I,II |
| 4. | Bairath and other new sites | 3 | II |
| 5. | Other new sites | 2 | II |
| 6. | An outline of Matsya Janapad | 2 | III |
| 7. | Special reference to Shivi Janpadas | 2 | III |
| 8. | Special reference to Malav Janpadas | 2 | III |
| 9. | Various theories of origin of Rajputs | 3 | IV |
| 10. | Early Chauhan rulers | 2 | IV |
| 11. | Prithvi Raj Chauhan III | 3 | IV,V |
| | UNIT-II | | |
| 12. | Achievements of Maharana Kumbha | 5 | V,VI |
| 13. | Rise of Marwar under Maldeo | 3 | VI |
| 14. | Resistance of Rajput rulers against Turks upto 1526 A.D. | 2 | VI |
| 15. | The policy of collaboration | 2 | VII |
| 16. | Mughals and resistance of Rajput | 2 | VII |
| 17. | Special reference to Man Singh of Amber | 2 | VII |
| 18. | Rai Singh of Bikaner | 2 | VIII |
| 19. | Rana Sanga of Mewar | 3 | VIII |
| 20. | Maharana Pratap of Mewar | 3 | VIII,IX |
| 21. | Chandrasen of Marwar | 2 | IX |
| 22. | Durgadas of Marwar | 3 | IX,X |
| | UNIT-III | | |
| 23. | Causes of Maratha penetration in Rajputana | 3 | X |
| 24. | Results of Maratha penetration in Rajputana | 2 | X,XI |
| 25. | Circumstances and consequence of the treaties of 1818 between Rajput rulers and company | 3 | XI |
| 26. | Special 5eference to Mewar. | 1 | XI |
| 27. | Special 5eference to Marwar. | 1 | XI |
| 28. | Special 5eference to Kota. | 2 | XII |
| 29. | Uprising of 1857-causes and results | 2 | XII |
| 30. | Special reference to Kota. | 2 | XII |
| 31. | Causes of political awakening in Rajasthan. | 2 | XIII |
| | UNIT-IV | | |
| 32. | Peasant movement in Rajasthan | 2 | XIII |
| 33. | Special reference to Bijolia | 5 | XIII,XIV |
| 34. | Special reference to Barad | 1 | XIV |
| 35. | Tribal Movements | 3 | XIV,XV |
| 36. | Contribution of Govind Giri | 2 | XV |
| 37. | Contribution of Motilal Tejawat. | 2 | XV |

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|---------------|--|----|-----------|
| 38. | Prajamandal movement in Rajasthan | 10 | XV,XVI |
| 39. | Integration of Rajasthan (1948-1956) | 6 | XVI,XVII |
| UNIT-V | | | |
| 40. | Various Schools of Rajasthani Painting | 2 | XVII |
| 41. | Special reference to Bundi | 1 | XVII |
| 42. | Special reference to Kota | 1 | XVIII |
| 43. | Fort architecture | 2 | XVIII |
| 44. | Special reference to Ranthambore | 1 | XVIII |
| 45. | Special reference to Gagron | 1 | XVIII |
| 46. | Special reference to Chittor. | 2 | XVIII,XIX |
| 47. | Development of Rajasthani Literature | 2 | XIX |
| 48. | Special reference to Charan Literature | 2 | XIX |
| 49. | Bhakti movement in Rajasthan | 2 | XIX,XX |
| 50. | Special reference to Meera in Rajasthan | 1 | XX |
| 51. | Special reference to Saint Dadu in Rajasthan | 1 | XX |
| 52. | Special reference to Pipa in Rajasthan | 1 | XX |
| 53. | Special reference to Sufism in Rajasthan | 3 | XX,XXI |
| 54. | Arya samaj and its effectes in Rajasthan | 5 | XXI |


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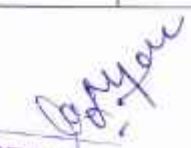
Teachers Name:- Dheeraj Kumar Wadiya

Subject/ Papers:- I Modern Indian History

Class:- B.A., B.A.B.ED.-III

| S.No. | TOPIC | No. of Lecture | Week |
|-------|--|----------------|-------------|
| | UNIT-I | | |
| 1. | Third Battle of Panipat and its consequences | 4 | I |
| 2. | Marathas Phadnavis | 3 | I,II |
| 3. | Mahadi ji Sindhia | 3 | II |
| 4. | Nana Phadnavis | 3 | II,III |
| 5. | Maratha struggle with the British | 3 | III |
| 6. | Causes of the failure of the Marathas | 2 | III |
| | UNIT-II | | |
| 7. | Establishment of British rule in Bengal | 3 | IV |
| 8. | Consequent administrative changes during (1772-1773) | 4 | IV,V |
| 9. | Emergence of regional powers | 3 | V |
| 10. | Mysore struggle with British | 3 | V,VI |
| 11. | Panjab struggle with British | 3 | VI |
| 12. | Awadh struggle with British | 3 | VI,V |
| 13. | Their absorption in the British Empire | 3 | V |
| | UNIT-III | | |
| 14. | Uprising of 1857 | 2 | V |
| 15. | Uprising of 1857, causes | 4 | VI |
| 16. | Uprising of 1857, nature | 2 | VI |
| 17. | Uprising of 1857 consequences | 2 | VII |
| 18. | Growth of British paramountcy in the Princely States 1858-1947 | 3 | VII |
| 19. | Main features of Permanent Roytwari | 4 | VII,VIII |
| 20. | Mahalwari land | 3 | VIII |
| 21. | Revenue settlements and their impact on peasantry | 3 | IX |
| | UNIT-IV | | |
| 22. | Drain of wealth and its consequences | 4 | IX,X |
| 23. | Economic impact of British rule | 2 | X |
| 24. | Causes of the Emergence of Indian Nationalism | 5 | X,XI |
| 25. | Role of Moderates and Extremists | 4 | XI |
| 26. | Revolutionary activities | 3 | XII |
| 27. | Salient features of Government of India | 3 | XII |
| 28. | Act of 1919 | 2 | XIII |
| 29. | Act of 1935. | 2 | XIII |
| | UNIT-V | | |
| 30. | Struggle for Freedom Movement from 1920 to 1947 | 12 | XIII,XIV,XV |
| 31. | Growth of Communal Politics | 3 | XV |
| 32. | Factors leading to Independence | 4 | XV |
| 33. | Factors partition of India | 3 | XV |


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Teachers Name:- Dheeraj Kumar Wadiya

Subject/ Papers:- History-II (Contemporary India)

Class:- B.A., B.A.B.ED.-III

| S.No. | TOPIC | No. of Lecture | Week |
|-------|--|----------------|------------|
| | UNIT-I | | |
| 1. | Legacy of freedom struggle | 2 | I |
| 2. | Socio-Cultural values of Non- Violence | 2 | I |
| 3. | National integration | 3 | I,II |
| 4. | Social Equality | 3 | II |
| 5. | Women participation | 2 | II |
| 6. | Problems and process of integration | 3 | III |
| 7. | Princely States into Indian Dominion (1947-1949) | 2 | III |
| 8. | Their re-organization in 1956 | 3 | III,IV |
| 9. | Problems of displaced persons | 2 | IV |
| 10. | Rehabilitation Process | 2 | IV |
| 11. | Framing of Indian Constitution | 3 | V |
| 12. | Main features and major amendments | 3 | V |
| | UNIT-II | | |
| 13. | Agrarian reforms and Bhudan Movement | 4 | VI |
| 14. | Planned economy | 3 | VI,VII |
| 15. | Industrialization-Policy | 2 | VII |
| 16. | Programme and Progress | 2 | VII |
| 17. | Mixed economy | 4 | VII,IX |
| 18. | Green revolution | 3 | IX |
| 19. | Nationalisation of Banks | 3 | X |
| 20. | Abolition of Privy Purses | 4 | X,XI |
| 21. | Liberalization | 3 | XI |
| | UNIT-III | | |
| 22. | Major Political parties | 4 | XI,XII |
| 23. | their role in democracy | 2 | XII |
| 24. | From one party dominance to Coalition | 2 | XII |
| 25. | Elements of foreign policy | 3 | XIII |
| 26. | Relations with neighbors | 4 | XIII,XIV |
| 27. | Non-Alignment | 2 | XIV |
| 28. | SAARC | 3 | XIV |
| | UNIT-IV | | |
| 29. | Changing social structure | 2 | XV |
| 30. | Challenges and problems | 2 | XV |
| 31. | Population growth | 2 | XV |
| 32. | Unemployment | 2 | XVI |
| 33. | Poverty | 2 | XVI |
| 34. | Communalism | 3 | XVI,XVII |
| 34. | Social movements- woman | 3 | XVII |
| 35. | Dalits and other Backward Classes | 3 | XVII,XVIII |
| 36. | Role of middle class | 2 | XVIII |
| | UNIT-V | | |
| 37. | Progress and achievements | 2 | XVIII |
| 38. | Science and technology | 5 | XVIII,XIX |
| 39. | Changing trends in dance | 3 | XIX,XX |
| 40. | Music painting | 5 | XX |
| 41. | Literature and Mass Media | 4 | XXI |

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2022-2023

| Paper- II | | Prose and fiction | |
|-----------|---------------------------------|-------------------|--------|
| S N | Topics | Number of Lecture | Week |
| | Unit-I | | |
| 1 | Bores | 02 | I |
| 2 | Freedom | 04 | I |
| 3 | What I Require from Life | 04 | II |
| | Unit-II | | |
| 4 | Student Mobs | 03 | II&III |
| 5 | The Essentials of Education | 04 | III |
| 6 | Non-Violence | 04 | III&IV |
| | Unit-III | | |
| 7 | The Three Dancing Goats | 02 | IV |
| 8 | The Fortune Teller | 02 | IV&V |
| 9 | Grief | 02 | V |
| | Unit- IV | | |
| 10 | The Doll's House | 02 | V |
| 11 | How Much Land Does a Man Need? | 02 | VI |
| 12 | The Adventure of Blue Carbuncle | 02 | VI |
| | Unit-V | | |
| 13 | The Bachelor of Arts (novel) | 08 | VI&VII |


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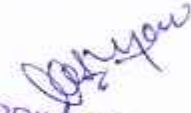
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2022-2023

Paper –I

English Poetry and Drama

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|-----------|
| | Unit-I | | |
| 1 | Ice and Fire | 01 | I |
| 2 | To Be or Not To Be | 02 | I |
| 3 | When To The Session | 01 | I |
| | Unit- II | | |
| 4 | Death Be Not Proud | 01 | I |
| 5 | The Retreat | 02 | I&II |
| 6 | Thought in a Garden | 04 | II |
| | Unit-III | | |
| 7 | When the Assault was Intended to The City | 02 | II&III |
| 8 | Lucifer in Hell | 03 | III |
| 9 | Shadwell | 04 | III&IV |
| 10 | Alexander's Feast | 04 | IV&V |
| 11 | From 'An Essay on Criticism' | 03 | V |
| | Unit-IV | | |
| 12 | As you like it (drama) | 08 | V, VI&VII |
| | Unit-V | | |
| 13 | Elizabethan Period | 03 | VII |
| 14 | Metaphysical Poet | 03 | VII&VIII |
| 15 | Neo-classical Period | 03 | VIII |
| 16 | Literary Terms | 05 | VIII&IX |


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2021-2022

Paper –I

English Poetry and Drama

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|-----------|
| | Unit-I | | |
| 1 | Ice and Fire | 01 | I |
| 2 | To Be or Not To Be | 02 | I |
| 3 | When To The Session | 01 | I |
| | Unit- II | | |
| 4 | Death Be Not Proud | 01 | I |
| 5 | The Retreat | 02 | I&II |
| 6 | Thought in a Garden | 04 | II |
| | Unit-III | | |
| 7 | When the Assault was Intended to The City | 02 | II&III |
| 8 | Lucifer in Hell | 03 | III |
| 9 | Shadwell | 04 | III&IV |
| 10 | Alexander's Feast | 04 | IV&V |
| 11 | From 'An Essay on Criticism' | 03 | V |
| | Unit-IV | | |
| 12 | As you like it (drama) | 08 | V, VI&VII |
| | Unit-V | | |
| 13 | Elizabethan Period | 03 | VII |
| 14 | Metaphysical Poet | 03 | VII&VIII |
| 15 | Neo-classical Period | 03 | VIII |
| 16 | Literary Terms | 05 | VIII&IX |


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2021-2022

Paper –II

Prose and fiction

| S N | Topics | Number of Lecture | Week |
|--------|---------------------------------|-------------------|--------|
| | Unit-I | | |
| 1 | Bores | 02 | I |
| 2 | Freedom | 04 | I |
| 3 | What I Require from Life | 04 | II |
| | Unit-II | | |
| 4 | Student Mobs | 03 | II&III |
| 5 | The Essentials of Education | 04 | III |
| 6 | Non-Violence | 04 | III&IV |
| | Unit-III | | |
| 7 | The Three Dancing Goats | 02 | IV |
| 8 | The Fortune Teller | 02 | IV&V |
| 9 | Grief | 02 | V |
| | Unit- IV | | |
| 10 | The Doll's House | 02 | V |
| 11 | How Much Land Does a Man Need? | 02 | VI |
| 12 | The Adventure of Blue Carbuncle | 02 | VI |
| | Unit-V | | |
| 13 | The Bachelor of Arts (novel) | 08 | VI&VII |


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2022-2023

Paper –I

English Poetry and Drama

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------------------|-------------------|----------|
| | Unit-I | | |
| 1 | Elegy Written in a County Churchyard | 06 | I |
| 2 | Ode to evening | 02 | II |
| 3 | Light Shining out of Darkness | 01 | II |
| 4 | On The Receipt of My Mother's Picture | 04 | II&III |
| | Unit-II | | |
| 5 | The World is Too Much with Us | 01 | III |
| 6 | The Solitary Reaper | 02 | III |
| 7 | Christabel Pt.- I | 08 | III&IV |
| 8 | She walks in beauty | 01 | V |
| | Unit-II | | |
| 9 | Ode to West Wind | 03 | V |
| 10 | Ode to a Skylark | 04 | V&VI |
| 11 | Ode to Autumn | 02 | VI |
| 12 | On First Looking into Chapman's Homer | 01 | VI |
| 13 | Bright Star | 01 | VI |
| 14 | O Captain My Captain | 01 | VII |
| 15 | A Bird Came Down the Walk | 01 | VII |
| 16 | Success is Counted Sweetest | 01 | VII |
| | Unit-IV | | |
| 17 | The Silver Box | 06 | VII&VIII |
| | Unit-V | | |
| 18 | Pre-Romantic Period | 02 | VIII |
| 19 | Romantic Period | 02 | VIII&IX |
| 20 | Literary Terms | 08 | IX&X |


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B A/ B A B.Ed. Pt. - 2nd YEAR
2022-2023

Paper- II

Prose and fiction

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------|-------------------|--------|
| | Unit-I | | |
| 1 | Of Studies | 02 | I |
| 2 | Periodical Essays | 02 | I |
| 3 | The Spectator Club | 03 | I&II |
| | Unit-II | | |
| 4 | National Prejudices | 03 | II |
| 5 | A Bachelor's Complaint | 04 | II&III |
| 6 | On Going a Journey | 06 | III&IV |
| | Unit-III | | |
| 7 | The Umbrella | 02 | IV |
| 8 | The Luncheon | 02 | IV&V |
| 9 | A Rose for Emily | 04 | V |
| | Unit-IV | | |
| 10 | The Barber's Trade Union | 03 | VI |
| 11 | The Axe | 03 | VI |
| | Unit-V | | |
| 12 | The Mayor of Casterbridge | 06 | VII |


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B A/ B A B.Ed. Pt. - 2nd YEAR
2021-2022

Paper –I

English Poetry and Drama

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------------------|-------------------|----------|
| | Unit-I | | |
| 1 | Elegy Written in a County Churchyard | 06 | I |
| 2 | Ode to evening | 02 | II |
| 3 | Light Shining out of Darkness | 01 | II |
| 4 | On The Receipt of My Mother's Picture | 04 | II&III |
| | Unit-II | | |
| 5 | The World is Too Much with Us | 01 | III |
| 6 | The Solitary Reaper | 02 | III |
| 7 | Christabel Pt.- I | 08 | III&IV |
| 8 | She walks in beauty | 01 | V |
| | Unit-II | | |
| 9 | Ode to West Wind | 03 | V |
| 10 | Ode to a Skylark | 04 | V&VI |
| 11 | Ode to Autumn | 02 | VI |
| 12 | On First Looking into Chapman's Homer | 01 | VI |
| 13 | Bright Star | 01 | VI |
| 14 | O Captain My Captain | 01 | VII |
| 15 | A Bird Came Down the Walk | 01 | VII |
| 16 | Success is Counted Sweetest | 01 | VII |
| | Unit-IV | | |
| 17 | The Silver Box | 06 | VII&VIII |
| | Unit-V | | |
| 18 | Pre-Romantic Period | 02 | VIII |
| 19 | Romantic Period | 02 | VIII&IX |
| 20 | Literary Terms | 08 | IX&X |


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2021-2022

Paper- II

Prose and fiction

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------|-------------------|--------|
| | Unit-I | | |
| 1 | Of Studies | 02 | I |
| 2 | Periodical Essays | 02 | I |
| 3 | The Spectator Club | 03 | I&II |
| | Unit-II | | |
| 4 | National Prejudices | 03 | II |
| 5 | A Bachelor's Complaint | 04 | II&III |
| 6 | On Going a Journey | 06 | III&IV |
| | Unit-III | | |
| 7 | The Umbrella | 02 | IV |
| 8 | The Luncheon | 02 | IV&V |
| 9 | A Rose for Emily | 04 | V |
| | Unit-IV | | |
| 10 | The Barber's Trade Union | 03 | VI |
| 11 | The Axe | 03 | VI |
| | Unit-V | | |
| 12 | The Mayor of Casterbridge | 06 | VII |


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B A/ B A B.Ed. Pt. - 3rd YEAR
2022-2023

Paper –I

English Poetry and Drama

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|----------|
| | Unit-I | | |
| 1 | The Lotus Eaters | 03 | I |
| 2 | Break, Break, Break | 01 | I |
| 3 | My Last Duchess | 02 | I |
| 4 | Dover Beach | 02 | II |
| | Unit-II | | |
| 5 | The Sea and the Skylark | 02 | II |
| 6 | The wild Swan at Coole | 02 | II |
| 7 | Birches | 03 | III |
| 8 | The Soldier | 01 | III |
| | Unit-III | | |
| 9 | Preludes | 03 | III&IV |
| 10 | In Memory of W B Yeats | 03 | IV |
| 11 | Fern Hill | 03 | IV&V |
| | Unit-IV | | |
| 12 | The Doll's House | 06 | V&VI |
| 13 | The Apple Cart | 06 | VI&VII |
| | Unit-V | | |
| 14 | The Victorian Period | 03 | VII |
| 15 | Features of 20 th Century Literature | 03 | VII&VIII |
| 16 | Literary Terms | 06 | VIII&IX |


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B A/ B A B.Ed. Pt. - 3rd YEAR
2022-2023

Paper- II

Prose and fiction

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|----------|
| | Unit-I | | |
| 1 | The Town Week | 02 | I |
| 2 | On The Pleasure of No Longer Being Very Young | 03 | I |
| 3 | On Superstitions | 03 | I&II |
| | Unit-II | | |
| 4 | In Praise of Ignorance | 04 | II |
| 5 | Selected Snobberies | 04 | III |
| 6 | On Getting Off to Sleep | 03 | III&IV |
| | Unit-III | | |
| 7 | Growing Up | 03 | IV |
| 8 | Dr Heidegger's Experiment | 03 | IV&V |
| 9 | The Gift of Magi | 03 | V |
| | Unit-IV | | |
| 10 | A Client | 03 | V&VI |
| 11 | Upper Division Love | 03 | VI |
| 12 | The Gold Watch | 03 | VI&VII |
| | Unit-V | | |
| 13 | Train to Pakistan | 06 | VII&VIII |


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LECTURE PLAN – ENGLISH LITERATURE
B A/ B A B.Ed. Pt. - 3rd YEAR
2021-2022

Paper –I

English Poetry and Drama

| S N | Topic | Number of Lecture | Week |
|--------|---|-------------------|----------|
| | Unit-I | | |
| 1 | The Lotus Eaters | 03 | I |
| 2 | Break, Break, Break | 01 | I |
| 3 | My Last Duchess | 02 | I |
| 4 | Dover Beach | 02 | II |
| | Unit-II | | |
| 5 | The Sea and the Skylark | 02 | II |
| 6 | The wild Swan at Coole | 02 | II |
| 7 | Birches | 03 | III |
| 8 | The Soldier | 01 | III |
| | Unit-III | | |
| 9 | Preludes | 03 | III&IV |
| 10 | In Memory of W B Yeats | 03 | IV |
| 11 | Fern Hill | 03 | IV&V |
| | Unit-IV | | |
| 12 | The Doll's House | 06 | V&VI |
| 13 | The Apple Cart | 06 | VI&VII |
| | Unit-V | | |
| 14 | The Victorian Period | 03 | VII |
| 15 | Features of 20 th Century Literature | 03 | VII&VIII |
| 16 | Literary Terms | 06 | VIII&IX |


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2021-2022

Paper- II

Prose and fiction

| S N | Topic | Number of Lecture | Week |
|--------|---|-------------------|----------|
| | Unit-I | | |
| 1 | The Town Week | 02 | I |
| 2 | On The Pleasure of No Longer Being Very Young | 03 | I |
| 3 | On Superstitions | 03 | I&II |
| | Unit-II | | |
| 4 | In Praise of Ignorance | 04 | II |
| 5 | Selected Snobberies | 04 | III |
| 6 | On Getting Off to Sleep | 03 | III&IV |
| | Unit-III | | |
| 7 | Growing Up | 03 | IV |
| 8 | Dr Heidegger's Experiment | 03 | IV&V |
| 9 | The Gift of Magi | 03 | V |
| | Unit-IV | | |
| 10 | A Client | 03 | V&VI |
| 11 | Upper Division Love | 03 | VI |
| 12 | The Gold Watch | 03 | VI&VII |
| | Unit-V | | |
| 13 | Train to Pakistan | 06 | VII&VIII |


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B A/ B A B.Ed. Pt.- 1st YEAR

2020-2021

Paper -I *English Poetry and Drama*

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|-----------|
| | Unit-I | | |
| 1 | Ice and Fire | 01 | I |
| 2 | To Be or Not To Be | 02 | I |
| 3 | When To The Session | 01 | I |
| | Unit- II | | |
| 4 | Death Be Not Proud | 01 | I |
| 5 | The Retreat | 02 | I&II |
| 6 | Thought in a Garden | 04 | II |
| | Unit-III | | |
| 7 | When the Assault was Intended to The City | 02 | II&III |
| 8 | Lucifer in Hell | 03 | III |
| 9 | Shadwell | 04 | III&IV |
| 10 | Alexander's Feast | 04 | IV&V |
| 11 | From 'An Essay on Criticism' | 03 | V |
| | Unit-IV | | |
| 12 | As you like it (drama) | 08 | V, VI&VII |
| | Unit-V | | |
| 13 | Elizabethan Period | 03 | VII |
| 14 | Metaphysical Poet | 03 | VII&VIII |
| 15 | Neo-classical Period | 03 | VIII |
| 16 | Literary Terms | 05 | VIII&IX |


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B A/ B A B.Ed. Pt.- 1st YEAR

2020-2021

Paper -II *Prose and Fiction*

| S N | Topics | Number of Lecture | Week |
|--------|---------------------------------|-------------------|--------|
| | Unit-I | | |
| 1 | Boredom | 02 | I |
| 2 | Freedom | 04 | I |
| 3 | What I Require from Life | 04 | II |
| | Unit-II | | |
| 4 | Student Mobs | 03 | II&III |
| 5 | The Essentials of Education | 04 | III |
| 6 | Non-Violence | 04 | III&IV |
| | Unit-III | | |
| 7 | The Three Dancing Goats | 02 | IV |
| 8 | The Fortune Teller | 02 | IV&V |
| 9 | Grief | 02 | V |
| | Unit- IV | | |
| 10 | The Doll's House | 02 | V |
| 11 | How Much Land Does a Man Need? | 02 | VI |
| 12 | The Adventure of Blue Carbuncle | 02 | VI |
| | Unit-V | | |
| 13 | The Bachelor of Arts (novel) | 08 | VI&VII |


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2020-2021

Paper -I *English Poetry and Drama*

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------------------|-------------------|----------|
| | Unit-I | | |
| 1 | Elegy Written in a County Churchyard | 06 | I |
| 2 | Ode to evening | 02 | II |
| 3 | Light Shining out of Darkness | 01 | II |
| 4 | On The Receipt of My Mother's Picture | 04 | II&III |
| | Unit-II | | |
| 5 | The World is Too Much with Us | 01 | III |
| 6 | The Solitary Reaper | 02 | III |
| 7 | Christabel Pt.- I | 08 | III&IV |
| 8 | She walks in beauty | 01 | V |
| | Unit-II | | |
| 9 | Ode to West Wind | 03 | V |
| 10 | Ode to a Skylark | 04 | V&VI |
| 11 | Ode to Autumn | 02 | VI |
| 12 | On First Looking into Chapman's Homer | 01 | VI |
| 13 | Bright Star | 01 | VI |
| 14 | O Captain My Captain | 01 | VII |
| 15 | A Bird Came Down the Walk | 01 | VII |
| 16 | Success is Counted Sweetest | 01 | VII |
| | Unit-IV | | |
| 17 | The Silver Box | 06 | VII&VIII |
| | Unit-V | | |
| 18 | Pre-Romantic Period | 02 | VIII |
| 19 | Romantic Period | 02 | VIII&IX |
| 20 | Literary Terms | 08 | IX&X |


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Paper- II *Prose and Fiction* 2020-21

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------|-------------------|--------|
| | Unit-I | | |
| 1 | Of Studies | 02 | I |
| 2 | Periodical Essays | 02 | I |
| 3 | The Spectator Club | 03 | I&II |
| | Unit-II | | |
| 4 | National Prejudices | 03 | II |
| 5 | A Bachelor's Complaint | 04 | II&III |
| 6 | On Going a Journey | 06 | III&IV |
| | Unit-III | | |
| 7 | The Umbrella | 02 | IV |
| 8 | The Luncheon | 02 | IV&V |
| 9 | A Rose for Emily | 04 | V |
| | Unit-IV | | |
| 10 | The Barber's Trade Union | 03 | VI |
| 11 | The Axe | 03 | VI |
| | Unit-V | | |
| 12 | The Mayor of Casterbridge | 06 | VII |



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Paper - I *English Poetry and Drama* 2020-2021

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|----------|
| | Unit-I | | |
| 1 | The Lotus Eaters | 03 | I |
| 2 | Break, Break, Break | 01 | I |
| 3 | My Last Duchess | 02 | I |
| 4 | Dover Beach | 02 | II |
| | Unit-II | | |
| 5 | The Sea and the Skylark | 02 | II |
| 6 | The wild Swan at Coole | 02 | II |
| 7 | Birches | 03 | III |
| 8 | The Soldier | 01 | III |
| | Unit-III | | |
| 9 | Preludes | 03 | III&IV |
| 10 | In Memory of W B Yeats | 03 | IV |
| 11 | Fern Hill | 03 | IV&V |
| | Unit-IV | | |
| 12 | The Doll's House | 06 | V&VI |
| 13 | The Apple Cart | 06 | VI&VII |
| | Unit-V | | |
| 14 | The Victorian Period | 03 | VII |
| 15 | Features of 20 th Century Literature | 03 | VII&VIII |
| 16 | Literary Terms | 06 | VIII&IX |


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Paper -II *Prose and Fiction* **2020-2021**

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|----------|
| | Unit-I | | |
| 1 | The Town Week | 02 | I |
| 2 | On The Pleasure of No Longer Being Very Young | 03 | I |
| 3 | On Superstitions | 03 | I&II |
| | Unit-II | | |
| 4 | In Praise of Ignorance | 04 | II |
| 5 | Selected Snobberies | 04 | III |
| 6 | On Getting Off to Sleep | 03 | III&IV |
| | Unit-III | | |
| 7 | Growing Up | 03 | IV |
| 8 | Dr Heidegger's Experiment | 03 | IV&V |
| 9 | The Gift of Magi | 03 | V |
| | Unit-IV | | |
| 10 | A Client | 03 | V&VI |
| 11 | Upper Division Love | 03 | VI |
| 12 | The Gold Watch | 03 | VI&VII |
| | Unit-V | | |
| 13 | Train to Pakistan | 06 | VII&VIII |


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Paper -I *English Poetry and Drama*

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|-----------|
| | Unit-I | | |
| 1 | Ice and Fire | 01 | I |
| 2 | To Be or Not To Be | 02 | I |
| 3 | When To The Session | 01 | I |
| | Unit- II | | |
| 4 | Death Be Not Proud | 01 | I |
| 5 | Go and Catch a Falling Star | 01 | I |
| 5 | The Retreat | 02 | I&II |
| 6 | Thought in a Garden | 04 | II |
| | Unit-III | | |
| 7 | When the Assault was Intended to The City | 02 | II&III |
| 8 | Lucifer in Hell | 03 | III |
| 9 | Shadwell | 04 | III&IV |
| 10 | Alexander's Feast | 04 | IV&V |
| 11 | From 'An Essay on Criticism' | 03 | V |
| | Unit-IV | | |
| 12 | The Comedy of Errors | 08 | V, VI&VII |
| | Unit-V | | |
| 13 | Elizabethan Period | 03 | VII |
| 14 | Metaphysical Poet | 03 | VII&VIII |
| 15 | Neo-classical Period | 03 | VIII |
| 16 | Literary Terms | 05 | VIII&IX |


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2018-2019

Paper -II *Prose and fiction*

| S N | Topics | Number of Lecture | Week |
|--------|---------------------------------|-------------------|--------|
| | Unit-I | | |
| 1 | Bored | 02 | I |
| 2 | Freedom | 04 | I |
| 3 | What I Require from Life | 04 | II |
| | Unit-II | | |
| 4 | Student Mobs | 03 | II&III |
| 5 | The Essentials of Education | 04 | III |
| 6 | Non-Violence | 04 | III&IV |
| | Unit-III | | |
| 7 | The Three Dancing Goats | 02 | IV |
| 8 | The Fortune Teller | 02 | IV&V |
| 9 | Grief | 02 | V |
| | Unit- IV | | |
| 10 | The Doll's House | 02 | V |
| 11 | How Much Land Does a Man Need? | 02 | VI |
| 12 | The Adventure of Blue Carbuncle | 02 | VI |
| | Unit-V | | |
| 13 | The Bachelor of Arts (novel) | 08 | VI&VII |

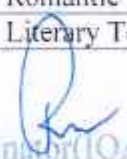

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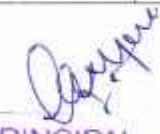

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Paper-I English Poetry and Drama **2018-2019**

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------------------|-------------------|----------|
| | Paper -I | | |
| | Unit-I | | |
| 1 | Elegy Written in a County Churchyard | 06 | I |
| 2 | Ode to evening | 02 | II |
| 3 | Light Shining out of Darkness | 01 | II |
| 4 | On The Receipt of My Mother's Picture | 04 | II&III |
| | Unit-II | | |
| 5 | The World is Too Much with Us | 01 | III |
| 6 | The Solitary Reaper | 02 | III |
| 7 | Christabel Pt.- I | 08 | III&IV |
| 8 | She walks in beauty | 01 | V |
| | Unit-II | | |
| 9 | Ode to West Wind | 03 | V |
| 10 | Ode to a Skylark | 04 | V&VI |
| 11 | Ode to Autumn | 02 | VI |
| 12 | On First Looking into Chapman's Homer | 01 | VI |
| 13 | Bright Star | 01 | VI |
| 14 | O Captain My Captain | 01 | VII |
| 15 | A Bird Came Down the Walk | 01 | VII |
| 16 | Success is Counted Sweetest | 01 | VII |
| | Unit-IV | | |
| 17 | The Silver Box | 06 | VII&VIII |
| | Unit-V | | |
| 18 | Pre-Romantic Period | 02 | VIII |
| 19 | Romantic Period | 02 | VIII&IX |
| 20 | Literary Terms | 08 | IX&X |



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2018-2019

Paper- II *Prose and fiction*

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------|-------------------|--------|
| | Unit-I | | |
| 1 | Of Studies | 02 | I |
| 2 | Periodical Essays | 02 | I |
| 3 | The Spectator Club | 03 | I&II |
| | Unit-II | | |
| 4 | National Prejudices | 03 | II |
| 5 | A Bachelor's Complaint | 04 | II&III |
| 6 | On Going a Journey | 06 | III&IV |
| | Unit-III | | |
| 7 | The Umbrella | 02 | IV |
| 8 | The Luncheon | 02 | IV&V |
| 9 | A Rose for Emily | 04 | V |
| | Unit-IV | | |
| 10 | The Barber's Trade Union | 03 | VI |
| 11 | The Axe | 03 | VI |
| | Unit-V | | |
| 12 | The Mayor of Casterbridge | 06 | VII |


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2018-2019

Paper-I English Poetry and Drama

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|----------|
| | Paper - I | | |
| | Unit-I | | |
| 1 | The Lotus Eaters | 03 | I |
| 2 | Break, Break, Break | 01 | I |
| 3 | My Last Duchess | 02 | I |
| 4 | Dover Beach | 02 | II |
| | Unit-II | | |
| 5 | The Sea and the Skylark | 02 | II |
| 6 | The wild Swan at Coole | 02 | II |
| 7 | Birches | 03 | III |
| 8 | The Soldier | 01 | III |
| | Unit-III | | |
| 9 | Preludes | 03 | III&IV |
| 10 | In Memory of W B Yeats | 03 | IV |
| 11 | Fern Hill | 03 | IV&V |
| | Unit-IV | | |
| 12 | The Doll's House | 06 | V&VI |
| 13 | The Apple Cart | 06 | VI&VII |
| | Unit-V | | |
| 14 | The Victorian Period | 03 | VII |
| 15 | Features of 20 th Century Literature | 03 | VII&VIII |
| 16 | Literary Terms | 06 | VIII&IX |


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2018-2019

Paper-II *Prose and fiction*

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|--------|
| | Unit-I | | |
| 1 | The Town Week | 02 | I |
| 2 | On The Pleasure of No Longer Being Very Young | 03 | I |
| 3 | On Superstitions | 03 | I&II |
| | Unit-II | | |
| 4 | In Praise of Ignorance | 04 | II |
| 5 | Selected Snobberies | 04 | III |
| 6 | On Getting Off to Sleep | 03 | III&IV |
| | Unit-III | | |
| 7 | Growing Up | 03 | IV |
| 8 | Dr Heidegger's Experiment | 03 | IV&V |
| 9 | The Gift of Magi | 03 | V |
| | Unit-IV | | |
| 10 | A Client | 03 | V&VI |
| 11 | Upper Division Love | 03 | VI |
| | Unit-V | | |
| 13 | Train to Pakistan | 06 | VI&VII |


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2019-2020

Paper -I *English Poetry and Drama*

| S N | Topics | Number of Lecture | Week |
|-----|---|-------------------|-----------|
| | Unit-I | | |
| 1 | Ice and Fire | 01 | I |
| 2 | To Be or Not To Be | 02 | I |
| 3 | When To The Session | 01 | I |
| | Unit- II | | |
| 4 | Death Be Not Proud | 01 | I |
| 5 | The Retreat | 02 | I&II |
| 6 | Thought in a Garden | 04 | II |
| | Unit-III | | |
| 7 | When the Assault was Intended to The City | 02 | II&III |
| 8 | Lucifer in Hell | 03 | III |
| 9 | Shadwell | 04 | III&IV |
| 10 | Alexander's Feast | 04 | IV&V |
| 11 | From 'An Essay on Criticism' | 03 | V |
| | Unit-IV | | |
| 12 | The Comedy of Errors | 08 | V, VI&VII |
| | Unit-V | | |
| 13 | Elizabethan Period | 03 | VII |
| 14 | Metaphysical Poet | 03 | VII&VIII |
| 15 | Neo-classical Period | 03 | VIII |
| 16 | Literary Terms | 05 | VIII&IX |


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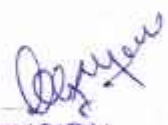
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2019-2020

Paper -II

Prose and Fiction

| S N | Topics | Number of Lecture | Week |
|-----------------|---------------------------------|-------------------|--------|
| Unit-I | | | |
| 1 | Bores | 02 | I |
| 2 | Freedom | 04 | I |
| 3 | What I Require from Life | 04 | II |
| Unit-II | | | |
| 4 | Student Mobs | 03 | II&III |
| 5 | The Essentials of Education | 04 | III |
| 6 | Non-Violence | 04 | III&IV |
| Unit-III | | | |
| 7 | The Three Dancing Goats | 02 | IV |
| 8 | The Fortune Teller | 02 | IV&V |
| 9 | Grief | 02 | V |
| Unit-IV | | | |
| 10 | The Doll's House | 02 | V |
| 11 | How Much Land Does a Man Need? | 02 | VI |
| 12 | The Adventure of Blue Carbuncle | 02 | VI |
| Unit-V | | | |
| 13 | The Bachelor of Arts (novel) | 08 | VI&VII |


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2019-2020

Paper -I *English Poetry and Drama*

| S N | Topics | Number of Lecture | Week |
|-----------------|---------------------------------------|-------------------|----------|
| Unit-I | | | |
| 1 | Elegy Written in a County Churchyard | 06 | I |
| 2 | Ode to evening | 02 | II |
| 3 | Light Shining out of Darkness | 01 | II |
| 4 | On The Receipt of My Mother's Picture | 04 | II&III |
| Unit-II | | | |
| 5 | The World is Too Much with Us | 01 | III |
| 6 | The Solitary Reaper | 02 | III |
| 7 | Christabel Pt.- I | 08 | III&IV |
| 8 | She walks in beauty | 01 | V |
| Unit-III | | | |
| 9 | Ode to West Wind | 03 | V |
| 10 | Ode to a Skylark | 04 | V&VI |
| 11 | Ode to Autumn | 02 | VI |
| 12 | On First Looking into Chapman's Homer | 01 | VI |
| 13 | Bright Star | 01 | VI |
| 14 | O Captain My Captain | 01 | VII |
| 15 | A Bird Came Down the Walk | 01 | VII |
| 16 | Success is Counted Sweetest | 01 | VII |
| Unit-IV | | | |
| 17 | The Silver Box | 06 | VII&VIII |
| Unit-V | | | |
| 18 | Pre-Romantic Period | 02 | VIII |
| 19 | Romantic Period | 02 | VIII&IX |
| 20 | Literary Terms | 08 | IX&X |


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2019-2020

Paper- II *Prose and fiction*

| S N | Topics | Number of Lecture | Week |
|-----|---------------------------|-------------------|--------|
| | Unit-I | | |
| 1 | Of Studies | 02 | I |
| 2 | Periodical Essays | 02 | I |
| 3 | The Spectator Club | 03 | I&II |
| | Unit-II | | |
| 4 | National Prejudices | 03 | II |
| 5 | A Bachelor's Complaint | 04 | II&III |
| 6 | On Going a Journey | 06 | III&IV |
| | Unit-III | | |
| 7 | The Umbrella | 02 | IV |
| 8 | The Luncheon | 02 | IV&V |
| 9 | A Rose for Emily | 04 | V |
| | Unit-IV | | |
| 10 | The Barber's Trade Union | 03 | VI |
| 11 | The Axe | 03 | VI |
| | Unit-V | | |
| 12 | The Mayor of Casterbridge | 06 | VII |


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2019-2020

Paper - I *English Poetry and Drama*

| S N | Topics | Number of Lecture | Week |
|--------|---|-------------------|----------|
| | Unit-I | | |
| 1 | The Lotus Eaters | 03 | I |
| 2 | Break, Break, Break | 01 | I |
| 3 | My Last Duchess | 02 | I |
| 4 | Dover Beach | 02 | II |
| | Unit-II | | |
| 5 | The Sea and the Skylark | 02 | II |
| 6 | The wild Swan at Coole | 02 | II |
| 7 | Birches | 03 | III |
| 8 | The Soldier | 01 | III |
| | Unit-III | | |
| 9 | Preludes | 03 | III&IV |
| 10 | In Memory of W B Yeats | 03 | IV |
| 11 | Fern Hill | 03 | IV&V |
| | Unit-IV | | |
| 12 | The Doll's House | 06 | V&VI |
| 13 | The Apple Cart | 06 | VI&VII |
| | Unit-V | | |
| 14 | The Victorian Period | 03 | VII |
| 15 | Features of 20 th Century Literature | 03 | VII&VIII |
| 16 | Literary Terms | 06 | VIII&IX |


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 Veena Campus, Veena Marg, Karauli-322341


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 Veena Memorial PG College
 Karauli (Raj.)

Veena Memorial PG College
Karauli, Rajasthan
LECTURE PLAN – ENGLISH LITERATURE
B A/ B A B.Ed. Pt. - 3rd YEAR
2019-2020

Paper -II

Prose and fiction

| S N | Topics | Number of Lecture | Week |
|-----|---|-------------------|--------|
| | Unit-I | | |
| 1 | The Town Week | 02 | I |
| 2 | On The Pleasure of No Longer Being Very Young | 03 | I |
| 3 | On Superstitions | 03 | I&II |
| | Unit-II | | |
| 4 | In Praise of Ignorance | 04 | II |
| 5 | Selected Snobberies | 04 | III |
| 6 | On Getting Off to Sleep | 03 | III&IV |
| | Unit-III | | |
| 7 | Growing Up | 03 | IV |
| 8 | Dr Heidegger's Experiment | 03 | IV&V |
| 9 | The Gift of Magi | 03 | V |
| | Unit-IV | | |
| 10 | A Client | 03 | V&VI |
| 11 | Upper Division Love | 03 | VI |
| | Unit-V | | |
| 12 | Train to Pakistan | 06 | VI&VII |


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Paper I- Thermal and Statistical Physics

| S.N | Name of Topics | No. of Lecture | Week |
|-----------------|---|----------------|-----------|
| Unit – I | | | |
| 1. | General Thermodynamical interaction, Dependence of the number of states of external parameters | 1 | I |
| 2. | General relations in equilibrium, equilibrium conditions ($P=p_1, b=b_1$), infinitesimal quasistatic process, Entropy of an ideal gas, Equilibrium of an isolated system, Equilibrium of a system in contact with reservoir (Gibb's free energy), | 2 | I |
| 3. | equilibrium between phases, Clausius-Clapeyron equation, Triple point, Vapour in equilibrium with liquid or solid, equilibrium conditions for a system of fixed volume in contact with heat reservoir (Helmholtz free energy) | 1 | I |
| 4. | Equilibrium between phases and condition of chemical equilibrium | 2 | I |
| 5. | equilibrium condition for a system at constant pressure in contact with a heat reservoir (Enthalpy), Maxwell's relations | 1 | II |
| Unit-II | | | |
| 6. | Thermal interactions of macroscopic Systems, system in contact with a heat reservoir, first law of thermodynamics | 2 | II |
| 7. | infinitesimal general interaction, Concept of temperature and quantitative idea of temperature scale (thermodynamical parameter) | 2 | II |
| 8. | Distribution of energy, second law of thermodynamics, Clausius and Kelvin's statements, partition function (Z) | 2 | II, III |
| 9. | mean energy of an ideal gas and mean pressure, Heat engine and efficiency of the engine, | 2 | III |
| 10. | Carnots cycle, thermodynamical scale as an absolute scale. | 2 | III |
| Unit-III | | | |
| 11. | Production of Low Temperatures and Application, Joule Thomson expansion | 4 | III, IV |
| 12. | J.T. coefficients for ideal as well as Van-der Waal's gas, Temperature inversions, | 3 | IV |
| 13. | Regenerative cooling and cooling by adiabatic expansion and demagnetization, | 4 | V, VI |
| 14. | Liquid He, He –I and He-II, superfluidity, quest for absolute zero, Nernst heat theorem | 3 | VI |
| Unit-IV | | | |
| 15. | Classical Statistics, Phase space, micro and macro states, Thermodynamic probability, Entropy and probability, Partition function (Z), | 2 | VI, VII |
| 16. | The monatomic ideal gas, The principle of equipartition of energy, most probable, average | 3 | VII |
| 17. | rms velocity, Specific heat capacity of diatomic gas, Specific heat capacity of solids. | 3 | VII, VIII |
| 18. | The Distribution of Molecular Velocities, the energy distribution, Transport phenomenon. mean free path, distribution of free path | 4 | VIII |
| 19. | coefficients of viscosity, thermal conductivity diffusion | 3 | VIII, IX |

| | Unit-V | | |
|-----|---|---|------|
| 20. | Quantum Statistics, Black body radiation and failures of classical statistics | 3 | IX |
| 21. | Postulates of quantum statistics, Indistinguishability, Wave function and exchange degeneracy, Priori probability, Bose-Einstein's Statistics, Planck's distribution law | 3 | IX,X |
| 22. | Fermi-Dirac statistics, completely degenerate system, Bose-Einstein condensation, Thermionic Emission, specific heat anomaly of metals contact potential and Ortho and Para hydrogen. | 4 | X |

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Lecture Plan

B.Sc./B.Sc.B.Ed PART II(PHYSICS) 2022-23

Paper –II ELECTRONICS

| S.N | Name of Topics | No. of Lecture | Week |
|-----------------|--|----------------|----------|
| Unit – I | | | |
| 1. | Circuit Analysis, Network-some important definitions | 1 | I |
| 2. | loop and nodal equation, Kirchhofs Laws, driving point and transfer impedances | 2 | I |
| 3. | four terminal network parameters, Open circuit, short circuit and hybrid network theorems, | 1 | I |
| 4. | Superposition, Thevenin, Norton, Reciprocity | 2 | I |
| 5. | Compensation and maximum power transfer | 1 | II |
| Unit-II | | | |
| 6. | Semiconductors, Intrinsic and extrinsic semiconductors, charge densities in N and P materials, conduction by drift and diffusion of charge, | 2 | II |
| 7. | Formation of PN junction, PN diode equation, capacitance effect of diode. | 2 | II |
| 8. | Rectification and power Supply, Half-wave and full wave rectifiers, calculation of Ripple factor, efficiency and regulation, | 2 | II,III |
| 9. | bridge rectifier, Filters: shunt capacitor, L and π filters, | 2 | III |
| 10. | Voltage regulation and voltage stabilization, Zener diode, Voltage multiplier circuits. | 2 | III |
| Unit-III | | | |
| 11. | Transistor and Transistor Amplifiers, Notations and volt ampere relations for bipolar junction transistor, CB, CE, CC configurations | 4 | III,IV |
| 12. | characteristic curves and their equivalent circuits, Biasing of transistors, Fixed and emitter bias, bias stability in transistor circuits | 3 | IV |
| 13. | concept of load line and operating point, hybrid parameters, Field effect transistor (JFET and MOSFET) | 4 | V,VI |
| 14. | its circuit characteristics, Analysis of transistor amplifiers using hybrid parameters and its frequency response | 3 | VI |
| Unit-IV | | | |
| 15. | Amplifiers with feed back, Concept of feed back Positive and negative feed back advantage of negative feed back, stabilization of gain by negative feed back | 2 | VI,VII |
| 16. | Effect of feed back on output and input resistance, Reduction of nonlinear distortion by negative feed back, | 3 | VII |
| 17. | frequency response, Voltage and current feed back circuit. | 3 | VII,VIII |
| 18. | Oscillators, Feed back requirements for oscillations, circuit requirement for oscillation, basic oscillator analysis, | 4 | VIII |
| 19. | Colpitt and Hartley oscillators, R-C Phase shift oscillator, Piezoelectric frequency control oscillations. | 3 | VIII,IX |
| Unit-V | | | |
| 20. | Operational amplifier (OP-AMP), Differential amplifier, DC levels shifter, operational amplifier, input and Output impedances, input offset current, | 3 | IX |
| 21. | Application of OP-AMP, Unity gain buffer, Adder, Subtractor, Integrator and Differentiator, Comparator, Waveform generator, Voltage regulator using integrated amplifiers. | 3 | IX,X |
| 22. | Digital Circuits: Binary, Hexadecimal and Octal number systems, Binary arithmetic, Logic fundamentals, AND, OR, NOT, NOR., NAND, XOR gates, Boolean theorems, transistor as a switch, circuit realization of logic functions | 4 | X |

Lecture Plan

B.Sc./B.Sc.B.Ed PART II(PHYSICS) 2022

Paper-III Relativity and Mathematical Physics

| S.N | Name of Topics | No. of Lecture | Week |
|-----------------|---|----------------|----------|
| Unit – I | | | |
| 1. | Orthogonal Curvilinear coordinate system, scale factors, expression for gradient, divergence and curl | 1 | I |
| 2. | and their applications to Cartesian, cylindrical and spherical polar coordinate systems, | 2 | I |
| 3. | Coordinate transformation and Jacobian, | 1 | I |
| 4. | Transformation of covariant, contravariant and mixed tensor, Addition, | 2 | I |
| 5. | Multiplication and contraction of tensors, Quotient law, pseudo tensor, Metric tensor, transformation of Tensors | 1 | II |
| Unit-II | | | |
| 6. | Dirac-Delta Function and its properties, Fourier series, computation of Fourier coefficients, applications to simple periodic functions like square wave, sawtooth wave and rectifier out put | 2 | II |
| 7. | Postulates of special theory of relativity and observational evidence, Lorentz transformation and Page 14 of 29 rotation in space time | 2 | II |
| 8. | time like and space like vectors, length contraction, time dilation | 2 | II,III |
| 9. | worldline, mass-energy relation, energy-momentum relation. | 2 | III |
| Unit-III | | | |
| 10. | Four vector formulation, energy-momentum four vectors, relativistic equation of motion, Orthogonality of four forces and four velocities | 2 | III |
| 11. | transformation of four wave vector, longitudinal and transverse Doppler's effect, Transformation between laboratory and center of mass systems, | 4 | III,IV |
| 12. | four momentum conservation, Kinematics of decay products of an unstable particle and reaction thresholds, pair production, inelastic collision of two particles, Compton effect. Electromagnetic field tensor, transformation of four potentials, four currents | 3 | IV |
| 13. | electric and magnetic field between two inertial frames of reference, Lorentz force, equation of continuity, conservation of charge | 4 | V,VI |
| 14. | tensor description of Maxwell's equations. | 3 | VI |
| Unit-IV | | | |
| 15. | The second order linear differential equation with variable coefficient and singular points, series solution method and its application in the Bessel's, Hermite's | 2 | VI,VII |
| 16. | Legendre's and Laguerre's differential equations, Basic properties like orthogonality, recurrence relations, | 3 | VII |
| 17. | graphical representation and generating function of Bessel, | 3 | VII,VIII |
| 18. | Hermite, Legendre Laguerre and Associated Legendre functions. | 4 | VIII |
| Unit-V | | | |
| 19. | Technique of separation of variables and its application to following boundary value problems: (i) Laplace equation in three dimension Cartesian | 3 | VIII,IX |
| 20. | Coordinate system-line charge between two earthed parallel plates, (ii) wave equation in spherical polar coordinates | 3 | IX |
| 21. | vibration of circular membrane, (iii) Diffusion equation in two dimensional Cartesian coordinate system-heat conduction in thin rectangular plate, | 3 | IX,X |
| 22. | Laplace equation in spherical coordinate system-Electric Potential about a spherical surface. | 4 | X |

Lecture Plan

B.Sc./B.Sc.B.Ed PART I (PHYSICS) 2022-23

Paper I- MECHANICS

| S.N | Name of Topics | No. of Lecture | Week |
|-------------------|---|----------------|----------|
| Unit – I | | | |
| 1. | Inertial & non-inertial frames | 1 | I |
| 2. | Galilean transformations | 2 | I |
| 3. | fictitious force, | 1 | I |
| 4. | uniformly rotating frames | 2 | I |
| 5. | transformation of displacement, | 1 | II |
| 6. | velocity and acceleration, | 2 | II |
| 7. | coriolis force, motion relative to earth | 2 | II |
| 8. | effect of rotation of earth on 'g', | 2 | II,III |
| 9. | Focault's pendulum and its time period. | 2 | III |
| Unit – II | | | |
| 10. | Concept of centre of mass, Centre of mass of a system of particles | 2 | III |
| 11. | equation of motion, conservation of linear momentum, Relationship between (Lab and center of Mass frames of in 1-D and 2-D reference) elastic and inelastic collision | 4 | III,IV |
| 12. | Motion of a system with varying mass, Motion in a central force field, conservation of angular momentum, | 3 | IV |
| 13. | trajectory of a particle under gravitational force, Kepler's laws, Rutherford's formula | 4 | V |
| 14. | Rigid body dynamics, equation of motion of a rotating body, Inertial coefficient, Moments of Inertia theorems, idea of principal axes and kinetic energy of rotation. | 4 | V,VI |
| 15. | Precessional motion of spinning top, spin precession in constant magnetic field, Larmor's frequency. | 3 | VI |
| Unit – III | | | |
| 16. | Elasticity, stress and strain, Hooke's Law, | 2 | VI,VII |
| 17. | Elastic constants and their relations, | 3 | VII |
| 18. | theory of bending of beams and torsion of a cylinder,Cantilever, cantilever supported at both ends | 3 | VII,VIII |
| 19. | Experimental determination of elastic constants by bending of beam | 4 | VIII |
| 20. | Searle's method, modulus of rigidity by static and dynamic method, Poisson's ratio for rubber. | 3 | VIII,IX |
| Unit – IV | | | |
| 21. | Qualitative idea of Oscillations in an arbitrary potential well, simple harmonic motion, | 3 | IX |
| 22. | Coupled oscillator, Eqvation of mation of two simple harmonic coupled oscillators and energy transfer normal modes, | 3 | IX,X |
| 23. | normal coordinates of two linear coupled oscillators, Damped harmonic oscillation-example of Ballistic galvanometer | 4 | X |
| 24. | forced harmonic oscillators, phase relations, power absorption, resonance, | 4 | XI |
| 25. | band width and quality factor, LCR series and parallel circuits | 3 | XI,XI |
| Unit – V | | | |
| 26. | General equation of one dimensional wave equation and its solution, | 3 | XI |
| 27. | longitudinal and transverse waves | 3 | XI,XII |
| 28. | Plane progressive harmonic wave, its energy density, energy flux and intensity, pressure waves in gas. | 4 | XII |
| 29. | Equation of motion for one dimensional monatomic & diatomic lattices | 3 | XII,XIII |
| 30. | acoustic and optical modes, dispersion relations, Concept of group & phase velocities. | 3 | XIII |

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B.Sc./B.Sc.B.Ed PART I (PHYSICS) 2022-23


paper-II Electromagnetism

| s.No | Topic | Number of lecture | WEEK |
|--|--|-------------------|------|
| Unit-I - Scalar and Vector Fields | | | |
| 1 | Scalar and Vector Fields, Gradient of a scalar field, relation between conservative field | 2 | 1 |
| 2 | Potential, line, surface and volume integral of vector fields, concept of flux, Divergence and Curl of a vector field and their physical significance | 2 | 1 |
| 3 | Gauss' divergence and Stokes curl theorem with proof | 2 | 1 |
| 4 | Del and Laplacian operator in Cartesian, Cylindrical and Spherical coordinates. | 3 | 2 |
| Unit II - Electrostatics | | | |
| 5 | Electric potential and field due to arbitrary charge distribution, Multipole Expansion, potential | 2 | 2 |
| 6 | field due to dipole & its interaction with electric field electrostatic energy of a uniformly charged sphere, classical radius of an electron. | 2 | 2,3 |
| 7 | Atomic and molecular dipoles, induced dipole and polarizability, dielectrics and their electrical polarization, susceptibility | 2 | 3 |
| 8 | displacement vector, Capacity of a capacitor with partially and completely filled dielectrics, | 2 | 3 |
| 9 | Gauss' law in integral and differential form, Lorentz local field and Clausius-Mossotti equation. | 2 | 3,4 |
| Unit-III - Electrostatic Field | | | |
| 10 | Conductors in an electric field, boundary conditions for electrostatic field and potential at dielectric surface, uniqueness theorem | 2 | 4 |
| 11 | method of electrical images and its application for system of point charge near a grounded conducting plane, | 2 | 4 |
| 12 | Poisson's and Laplace equation in Cartesian, cylindrical and | 2 | 4 |
| 13 | spherical coordinates (without proof) solution of Laplace's equation in cartesian coordinates, boundary conditions. | 3 | 5 |
| Unit IV | | | |
| 14 | Rise and decay of current in LR and CR circuits, decay constants, transients in LCR circuits, self and mutual induction | 2 | 5 |
| 15 | Measurement of self induction by Rayleigh's method, AC circuits and complex numbers | 2 | 5 |
| 16 | their application in solving AC circuit problems, complex impedance and reactance, series and parallel resonance. | 2 | 6 |
| 17 | Quality factor, power consumed by an AC circuit, Power factor. | 2 | 6 |
| 18 | Biot Savart law, Amperes circuital law in differential and integral form | 2 | 6 |
| 19 | Magnetization vector, Magnetizing field H, relation between B, H and M. uniform magnetization and surface current | 2 | 7 |
| 20 | Non-uniform magnetization, orbital and spin angular momentum & magnetic moment, orbital gyro magnetic ratio and Bohr Magneton, Magnetic susceptibility | 2 | 8 |

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| | Unit-V | | |
|----|--|---|---|
| 21 | Time Varying Fields, Faraday's law of electromagnetic induction, its integral and differential form, | 2 | 8 |
| 22 | Maxwell's equation in differential and integral form, Maxwell's displacement current, Wave equation for electric and magnetic field, | 3 | 8 |
| 24 | Plane electromagnetic waves and their properties, transverse nature of EMW, energy density, | 3 | 9 |
| 25 | Poynting Theorem, Poynting vector, propagation of EM Wave in conducting and isotropic dielectric medium | 2 | 9 |
| | | | |



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| S.n. | Topic | Number of lecture | WEEK |
|---------------------------------------|--|-------------------|------|
| Unit-I Geometrical Optics | | | |
| 1 | Fermat's principle of extremum path, Aplanatic points of a spherical refracting surface, Cardinal points of an optical system, | 1 | 1 |
| 2 | Newton's formula and other relations for coaxial lens system, thick lens & lens combination, Lagrange's law | 2 | 1 |
| 3 | Aberration in images, spherical aberration and methods of its reduction, | 1 | 1 |
| 4 | chromatic aberration, achromatic combination of lenses placed in contact and placed at some distance, | 1 | 1 |
| 5 | coma and astigmatism, Eye pieces: Huygen's, Ramsden's and Gauss's eyepieces and their comparison. | 2 | 2 |
| Unit- II - Interference | | | |
| 6 | Young's double slit experiment, temporal and spatial coherence, coherence length and time effect of size of slit and purity of spectral line, | 2 | 2 |
| 7 | Interference in thin films, colour in thin films. Wedge shaped film, Newton's rings | 1 | 2 |
| 8 | determination of wavelength and refractive index of liquid by Newton ring, Haidinger and Fizeau fringes | 1 | 2,3 |
| 9 | Michelson Interferometer, Measurement of wavelength, wavelength difference between two close wavelengths | 2 | 3 |
| 10 | thickness of thin plate. Fabry-Perot interferometer, intensity distribution, coefficient of sharpness and half width | 2 | 3 |
| 11 | Measurement of wavelength and resolution of two close spectral lines. | 1 | 3 |
| Unit-III - Diffraction | | | |
| 12 | Fraunhofer diffraction at single slit, intensity distribution and width of central maxima, and determination of slit size, | 1 | 3,4 |
| 13 | two slit diffraction and its intensity distribution with missing orders. Diffraction due to N slits with intensity distributions | 2 | 4 |
| 14 | Plane transmission grating its formation Page 5 of 29 and intensity distribution, Dispersive power of grating, | 1 | 4 |
| 15 | Angular width of principal maximum, Absent Spectra, Rayleigh's criterion, resolving power of plane transmission grating | 1 | 4 |
| 16 | Fresnel class of diffraction, half period zones, zone plate, diffraction due to circular obstacle and aperture, | 2 | 4,5 |
| 17 | cylindrical wavefront and its effect at an external point, Diffraction at straight edge, thin and thick wire, rectangular slit. | 2 | 5 |
| Unit-IV - Polarization | | | |
| 18 | Polarization states of electromagnetic waves, Plane, Circularly and Elliptically Polarised Light, quarter and half wave plates, | 1 | 5 |
| 19 | methods of production & detection of polarized light, Huygen's theory of double refraction using Fresnel's ellipsoidal surface, | 2 | 5,6 |
| 20 | Crystal Optics, Optical activity, Specific rotation, Fresnel's law of optical rotation, Biquartz and Laurent's half shade polarimeters, Reflection | 2 | 6 |
| 21 | refraction of plane EMW at plane dielectric surface, boundary conditions, Fresnel's relations. | 2 | 6 |
| Unit-V - Lasers and Holography | | | |
| 22 | Stimulated and spontaneous emission, stimulated absorption, Einstein's A and B coefficients, | 2 | 6 |

| | | | |
|----|---|---|-----|
| 23 | population inversion, conditions for laser action, metastable states, Types of lasers, | 2 | 7 |
| 24 | construction, working and energy level schemes of He-Ne and Ruby laser, Applications of Lasers, | 2 | 7 |
| 25 | Basic concepts of holography, construction of a hologram and reconstruction of the image, | 1 | 7 |
| 26 | important features of hologram and uses of holography | 1 | 7,8 |


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VEENA MEMORIAL P.G. COLLEGE B Sc III year

KARALI RAJASTHAN

paper-III

LECTURE PLAN

Physical chemistry

year

| S. no | Topic | Number of lecture | WEEK |
|-------------------------------------|--|-------------------|------|
| Unit 1 Elementary quantum mechanism | | | |
| 1 | Black body radiation ,planks radiation law | 1 | 1 |
| 2 | Photoelectric effect ,heat capacity | 2 | 1 |
| 3 | Bohr model of hydrogen atom and its defect | 1 | 1 |
| 4 | Compton effect ,de Broglie Heisenberg uncertainty principal | 1 | 1 |
| 5 | Sinusoidal wave ,physical interpretation of the wave fuction | 1 | 2 |
| 6 | Postulate of quatum mechanics, partical one dimensional box | 2 | 2 |
| 7 | Schrodinger wave equation for hydrogen atom | 1 | 2 |
| 8 | Separation into three equation ,quatum number and their important | 1 | 2,3 |
| 9 | Hydrogen like wavefuction ,radial wave fuction and angular wave fuction | 2 | 3 |
| Unit 2 Molecular orbital theory | | | |
| 10 | Basic idia ,criteria for MO from AO ,construction of MO of H ₂ ion by LACO method | 2 | 3 |
| 11 | Calculation of energy level from wave fuction | 1 | 3 |
| 12 | Physical picture of bonding and anti bonding wave fuction | 1 | 3,4 |
| 13 | Concept of sigma ,sigma anti -bonding ,pi and pi anti bonding orbital and their characteristic | 2 | 4 |
| 14 | Hybrid orbital sp ,sp ² ,sp ³ . | 1 | 4 |
| 15 | Calculation of coefficient of AO | 1 | 4 |
| 16 | H ₂ valence bond model ,comparision of MO and VB model | 2 | 4,5 |
| Unit -3 spectroscopy | | | |
| 17 | Introduction electromagnetic radiation,spectrum basic feature of different spectrometer | 2 | 5 |
| 18 | Statement of the Born- Openheimer approximation,degree of freedom | 1 | 5 |
| 19 | Rotational spectroscopy ,Diatomic molecule ,energy level of a rigid rotator | 2 | 5,6 |
| 20 | Selection rules ,spectral intensity ,using population distribution ,determination of bond length | 2 | 6 |
| 21 | Qualitative description of non rigid rotator and isotop effect | 2 | 6 |
| 22 | Vibrational spectroscopy energy level of simple harmonic oscillator ,selection rule | 2 | 6 |
| 23 | Pure vibrational spectrum ,intensity | 2 | 7 |
| 24 | Determination of force constant and qualitative relation force constant and bond energy | 2 | 7 |
| 25 | Effect of anharmonic motion and isotop on the spectrum | 1 | 7 |
| 26 | Idea of vibrational frequencies of different function groups | 1 | 7,8 |
| 27 | Concept of polarizability ,pure vibrational raman spectra of die atomic | 2 | 8 |

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प्राचार्य

वीणा मेमोरियल पी.जी. कॉलेज
करौली (राज०)

| | | | |
|----|---|---|-------|
| | molecule ,selection rule | | |
| 28 | Electronic spectroscopy | 1 | 8 |
| 29 | Concept of potential energy curve for bonding and anti bonding molecular orbital | 2 | 8,9 |
| 30 | Qualitative description of selection rule and frank condon principal | 2 | 9 |
| | Qualitative description of sigma ,pi and nMO ,their energy level s and the respective transition. | 2 | 9 |
| 31 | Unit 4 photochemistry | | |
| 32 | Interaction of radiation with matter ,difference between thermal and photochemical process | 2 | 10 |
| 33 | Law of photochemistry ;grothus-drapper law ,stark –Einstein law | 1 | 10 |
| 34 | Jablonski diagram depicting various processes occurring in the excited state | 2 | 10 |
| 35 | Qualitative description of fluorescence ,phosphorescence, Non-radiative process ,quantum yield ,actinometry ,photosensitized reaction energy transfer process | 1 | 11 |
| | | 2 | 12 |
| 36 | Unit 5 Physical properties and molecular structure | | |
| 37 | Optical activity ,polarization ,orientation of dipole in an electrical field | 2 | 12 |
| 38 | Dipole moment ,measurent of dipole moment temperature method and refractivity method | 2 | 12 |
| 39 | Dipole moment and structure of molecule | 2 | 13 |
| 40 | Magnetic properties | 1 | 13 |
| 41 | Paramagnetism ,diamagnetis and ferromagnetic | 1 | 13 |
| 42 | Solution general introduction | 1 | 14 |
| 43 | Ideal and non-ideal solution and their properties | 2 | 14 |
| 44 | Method of expressing concentration of solution | 2 | 14 |
| 45 | Activity and activity coefficient ,roult and Henry law ,Azeotropes-ethanol water system | 2 | 15 |
| 46 | Nernst Distribution law Thermodyamic derivation application | 2 | 15 |
| 47 | Dilute solution,colligative properties ,relative lowering of vapour pressure | 2 | 15,16 |
| 48 | Molecular weight determination | 2 | 16 |
| 49 | Osmotic pressure and its measurement ,determination | 2 | 16 |
| 50 | Osmosis pressure and its measurement | 2 | 16 |
| 51 | Determination of molecular weight from osmotic pressure | 1 | 17 |
| 52 | Elvation of boiling point and depression in freezing point | 2 | 17 |
| 53 | Experimental method for determination various colligative properties | 2 | 17 |
| 54 | Abnormal value and abnormal molar mass degree of dissociation and association of solutes | 2 | 18 |


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 क़ाज़ौली (राजस्थान)

VEENA MEMORIAL P. G. COLLEGE B.sc 2nd year

KARALI RAJASTHAN

LECTURE PLAN

Organic chemistry

paper –II

year

| s.no | Topic | No of lecture | week |
|------|---|---------------|------|
| | Unit -1 uv and ir spectroscopy | | |
| 1 | Absorption law ,molar absorptivity ,presentation and analysis of uv spectra | 1 | 1 |
| 2 | Type of electronic transition,effect of conjugation | 1 | 1 |
| 3 | Concept of chromophore and auxochrome | 1 | 1 |
| 4 | Bathochromic shift ,hypo,hyper,hypsoshift | 1 | 1 |
| 5 | Uv spectra of diene | 1 | 1,2 |
| 6 | Ir spectra ,molecular vibration ,hookes law selection rule ,intensity and position of IR band | 2 | 2 |
| 7 | Finger print region,characteristic absorption of various functional group | 3 | 2 |
| 8 | Interpretation of ir spectra of simple organic compound | 2 | 3 |
| | Unit 2 alcohol and phenol | | |
| 10 | Classification and nomenclature of alcohol ,method of preparation | 2 | 3 |
| 11 | Reduction by aldehyde and ketone ,carboxylic acid ,ester,hydrogen bonding | 2 | 3 |
| 12 | Acidic nature and reaction of alcohol | 2 | 4 |
| 13 | Dihydric alcohol ,nomenclature,method of preparation vicinal glycol,oxidative cleavage | 2 | 4 |
| 14 | Pinacol-pinacolone rearrangement,tri hydric alcohol | 2 | 4 |
| 15 | Chemical reaction of glycerol | 1 | 5 |
| 16 | Phenol,nomenclature structure of phenol,and preparation ,comparative acidic strength of alcohol,and phenol | 1 | 5 |
| 17 | Electrophilic substitution ,acylation and carboxylation | 2 | 5 |
| 18 | Mechanism of Fries rearrangement,Claisen rearrangement | 2 | 5 |
| 19 | Gatterman reaction ,Hauben –Hoesch reaction , | 2 | 6 |
| 20 | Lederer- manasse reaction and Reimer tiemann reaction | 2 | 6 |
| | Unit 3 carbonyl compound | | |
| 21 | Nomenclature ,structure of carbonyl group and synthesis of aldehyde and ketone using 1,3 dithianes , | 2 | 6,7 |
| 22 | Synthesis of ketone from nitrile and carboxylic acid | 2 | 7 |
| 23 | Physical properties,mechanism of nucleophilic addition to carboxylic group with particular emphasis on benzoin ,aldol,perkin and Knoevenagel condensation | 2 | 7 |
| 24 | Condensation with ammonia and its derivative | 2 | 8 |
| 25 | Wittig reaction and Mannich reaction | 2 | 8 |
| 26 | Use of acetal as a protecting group ,oxidation of aldehyde | 2 | 8 |
| 27 | Baeyer –villiger oxidation of ketone ,cannizzaro reaction | 2 | 9 |
| 28 | Meerwein –Ponndorf –Verley ,Clemmensen ,Wolff-kishner | 2 | 9 |
| 29 | LiAlH ₄ and NaBH ₄ reduction | 2 | 10 |
| 30 | Halogenations of enolizable ketone | 2 | 10 |


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Principal

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| | | | |
|----|--|---|-------|
| 31 | An introduction to alpha and beta unsaturated aldehyde and ketone | 2 | 10 |
| | Unit 4 ether and epoxide | | |
| 32 | Nomenclature of ether | 2 | 11 |
| 33 | Method of preparation ,physical properties | 2 | 11 |
| 34 | Chemical reaction ,cleavage and autooxidation | 2 | 11,12 |
| 35 | Ziesel method ,synthesis of epoxide ,acid and base catalyzed ring opening of epoxide , | 2 | 12 |
| 36 | Reaction of Grignard and organolithium reagent with example | 2 | 12 |
| 37 | Carboxylic acid nomenclature ,structure and bonding ,physical properties ,acidity of carboxylic acid ,effect of substituent on acid strength | 2 | 12 |
| 38 | Preparation of carboxylic acid ,reaction of acid,Hell-volhard –zeilinsky reaction | 2 | 13 |
| 39 | Synthesis of acid chloride,ester and amide | 2 | 13 |
| 40 | Reduction of carboxylic acid ,Mechanism of decarboxylation | 2 | 13 |
| 41 | Method of formation ,chemical reaction of unsaturated monocarboxylic acid | 2 | 13,14 |
| 42 | Dicarboxylic acid ;method of synthesis and effect of heat and dehydrating agents | 2 | 14 |
| 43 | Carboxylic derivative structure and nomenclature of acid chloride,anhydride | 2 | 14 |
| 44 | Relative stability | 2 | 15 |
| 45 | Reactivity of derivative | 2 | 15 |
| 46 | Physical properties,interconversion of acid derivative by nucleophilic acyl substitution | 2 | 16 |
| 47 | Preparation of carboxylic acid derivative and chemical reaction | 2 | 16 |
| 48 | Mechanism of esterification and hydrolysis | 2 | 16 |
| | UNIT 5 ORGANIC COMPOUND OF NITROGEN | | |
| 49 | Preparation of nitrogen.chemical reaction of nitro alkane,mechanism of nucleophile substitution in nitroarene and their reduction in acidic | 2 | 17 |
| 50 | Neutral and alkaline media ,picric ,Halo nitro arene reactivity | 2 | 17 |
| 51 | Alkyl and alkyl amine reactivity structure and nomenclature ,physical properties | 2 | 17 |
| 52 | Stereochemistry of amine | 2 | 18 |
| 53 | Separation of a mixture of primary ,secondary and tertiary amines | 2 | 18 |
| 54 | Amine salts as phase transfer catalyst | 2 | 18 |
| 55 | Preparation of alkyl and alkyl amine | 2 | 19 |
| 56 | Reductive elimination of aldehyde and ketone compounds,Gabriel Phthalimide reaction | 2 | 19,20 |
| 57 | Hoffmann bromide reaction | 1 | 20 |
| 58 | Reaction of amine ,electrophilic aromatic substitution in aryl amine with nitrous acid | 2 | 20 |
| 59 | Synthetic transformation of aryl diazonium ,azo coupling | 1 | 20 |


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VEENA MEMORIAL P.G. COLLEGE B.sc1st year

KARALI RAJASTHAN

LECTURE PLAN

paper III

Physical chemistry

year

| s.no | Topic | No of lecture | week |
|------|--|---------------|------|
| | Unit I mathematical concept and computer | | |
| 1 | Logarithmic relation curve sketcheding | 1 | 1 |
| 2 | Linear graph and calculation of slope differentiation of fuction like as $kx, e^x, x^n, \sin x, \log x$; maxima | 1 | 1 |
| 3 | Partial differentiation and reciprocity relation | 1 | 1 |
| 4 | Intergration of some useful relevant function | 1 | 1 |
| 5 | Permutation and combinations | 2 | 1,2 |
| 6 | Factorial, Probability | 1 | 2 |
| 7 | General introduction to computer | 1 | 2 |
| 8 | Different component of a computer | 1 | 2 |
| 9 | Hardware and software input output device | 1 | 2 |
| 10 | Binary number and arithmetic | 1 | 2 |
| 11 | Programming ,operating system | 1 | 2,3 |
| | Unit 2 Gaseous state | | |
| 12 | Postulate of kinetic theory of gases ,continuity of state | 2 | 3 |
| 13 | Thye isotherm of vandar wall equation ,realationship between critical constant and vandarwall constant | 2 | 3 |
| 14 | Root mean square ,average and most prople velocities ,qualitative discussion of the Maxwell distribution law | 2 | 3 |
| 15 | Mean free path and collision diameter ,liquidfication of gas | 2 | 3 |
| | Unit 3 liquid state | | |
| 16 | Intramolecular force ,structure of liquid ,structural difference between liquid ,solide ,gaseous | 2 | 4 |
| 17 | Difference between liquid crystal ,solid ,classification ,stuture of nematic and cholestric phase | 2 | 4 |
| 18 | Definition of colloid and classification | 2 | 5 |
| 19 | Kinetic and electrical properties;stability,protective action ,Hardy-schulze law, | 2 | 5 |
| 20 | Gold nimber ,type of emulsion ,preparation ,etc | 2 | 5 |
| 21 | Liquid in solid ,classification ,preparation and properties ,inhibition | 2 | 6 |
| 22 | General appplication | 2 | 6 |
| | Unit 4 solid state | | 6 |
| 23 | Classification of solid ,definition of space lattice ,lattice point,crystal lattice | 3 | 7 |
| 24 | Seven crystal system ,symmetry element in crystal ,type of crystal | 2 | 7 |
| 25 | Law of crystallography ,three rule include , | 1 | 7 |
| 26 | X ray diffraction by crystal ,deviation of brag equation | | 7,8 |
| 27 | Determining the crystal structure of Nacl,kcl and cscl | 1 | 8 |
| | Unit -5 chemical kinetic and catalysis | | |
| 28 | Chemical kinetic and its scope ,rate of a reaction ,concentration | 2 | 8 |


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| | | | |
|----|---|---|------|
| | , temperature, pressure, solvent, light catalyst | | |
| 29 | Concentration, dependence of rate, mathematical characteristics of simple chemical reaction | 2 | 8 |
| 30 | Zero order, first, second, pseudo order, half life and mean life. | 2 | 9 |
| 31 | Determination of the order reaction, differential method, method of integration | 2 | 9 |
| 32 | Method of half life period and isolation method, radioactive decay as a first order phenomenon, | 2 | 9,10 |
| 33 | Experimental method of chemical kinetic; conductometric, potentiometric, optical method etc | 2 | 10 |
| 34 | Effect of temperature on rate reaction, Arrhenius concept of activation energy, simple collision theory based on hard sphere model, | 2 | 10 |
| 35 | Transition theory, expression for the rate constant based on equilibrium constant and thermodynamic aspects | 2 | 10 |
| 36 | Catalysis and classification of catalysis reaction and miscellaneous example | 2 | 11 |
| | | | |


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VEENA MEMORIAL P.G. COLLEGE B.sc 1st year

KARALI RAJASTHAN

| Practical (inorganic,organic,physical) | | | year |
|--|---|-------------------|--------|
| s.no | Topic | Practical deliver | week |
| | Inorganic chemistry | | |
| 1 | To analyse the given mixture into anion (acid) and cation (base) radical by wet and dry test | 6 | 1,2,3 |
| | Acidic radical CH_3COO^- , Br^- , I^- | | |
| | Basic radical NH_4^+ , Zn^{+2} , Mg^{+2} | | |
| 2 | To nanlyse the given mixture into 3 anion (acidic) and 3 cation (basic) by wet and dry test | 6 | 4,5,6 |
| | Acidic radical CO_3^{-2} , SO_3^{-2} , Cl^- | | |
| | Basic radical NH_4^+ , Al^{+3} , Ni^{+2} | | |
| | Organic chemistry | | |
| 3 | To determine functional group in given organic compound and test for element (COOH,OH,phenolic OH,CHO,CO,CONH ₂ ,NO ₂ ,Carbohydrate,aromatic ameen ,) | 10 | 7,9,11 |
| | Physical chemistry | | |
| 4 | To determine surface tension of composition of a given mixture | 2 | 12,13 |
| 5 | To determine the percentage of composition of given mixture by viscoscity method | 2 | 14,15 |
| | | | |

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प्राचार्य

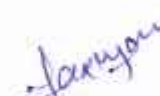
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करौली (राज०)

VEENA MEMORIAL P.G. COLLEGE B.sc 2nd year
KARALI RAJASTHAN

Practical (inorganic,organic,physical)

| s.no | Topic | Practical delivered | week |
|------|--|---------------------|----------------|
| | Inorganic chemistry | | |
| 1 | To determine the concentration of purity of compound of commercial vinegar using NaOH | 1 | 1, |
| 2 | Estimation of nickel diethyl glycol | 1 | 2 |
| | Organic chemistry | | |
| 3 | Determine the organic compound (COOH, C ₂ H ₅ OH, phenolic OH, C ₆ H ₅ OH, acetone, NO ₂ etc.,) Physical chemistry | 10 | 3,5,7,9 ,11 |
| 4 | To determine heat of solution of solid NaCl | 1 | 12 |
| 5 | Determine the transition temperature of MnCl ₂ .4H ₂ O by thermodynamic method . | 1 | 13 |


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VEENA MEMORIAL P.G.COLLEGE B.sc 3rd year
KARALI RAJASTHAN

Practical (inorganic,organic,physical)

| s.no | Topic | Lecture delivered | week |
|------|---|-------------------|------|
| | Inorganic chemistry | | |
| 1 | Preperation of sodium trioxalato ferrate III, $\text{Na}_3[\text{Fe}(\text{C}_2\text{O}_4)_3]$ | 1 | 1 |
| 2 | Preperation of copper tetra amine complex or tetra amino copper sulphate $[\text{Cu}(\text{NH}_3)_4\text{SO}_4]$ | 1 | 2 |
| 3 | Formation of trans pottosium dioxaloto di aqua chromate III | 1 | 3 |
| | Organic chemistry | | |
| 4 | In given organic mixture identify compound A and compound B by element test and know melting point and using separation method.(benzoic acid and urea) | 2 | 4,5 |
| 5 | Identify the organic compound in the given organic substance determine its boiling point(alpha napthenol ,oxalic acid) | 2 | 6,7 |
| 6 | To identify the compound in given organic substance and also determine its melting point(m dinitro benzene,oxalic acid) | 2 | 7,8 |
| 7 | To identify the organic compound in the given organic substance and also determine its melting point (beta naphthanol and urea) | 2 | 9,10 |
| | Physical chemistry | | |
| 8 | To determine the concentration of unknown HCl solution with the help of standard NaOH solution using conductometry method | 2 | 11 |


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LECTURE PLAN

Physical chemistry

year


| S,no 1 | Topic | Numbers of lecture | WEEK |
|--------|--|--------------------|------|
| | Unit 1 Elementary quantum mechanism | | |
| 1 | Black body radiation ,planks radiation law | 1 | 1 |
| 2 | Photoelectric effect ,heat capacity | 2 | 1 |
| 3 | Bohr model of hydrogen atom and its defect | 1 | 1 |
| 4 | Compton effect ,de Broglie Heisenberg uncertainty principal | 1 | 1 |
| 5 | Sinusoidal wave ,physical interpretation of the wave fuction | 1 | 2 |
| 6 | Postulate of quatam mechanics, partical one dimensional box | 2 | 2 |
| 7 | Schrodinger wave equation for hydrogen atom | 1 | 2 |
| 8 | Separation into three equation ,quatum number and their important | 1 | 2,3 |
| 9 | Hydrogen like wavefuction ,radial wave fuction and angular wave fuction | 2 | 3 |
| | Unit 2 Molecular orbital theory | | |
| 10 | Basic idia ,criteria for MO from AO ,construction of MO of H ₂ ion by LACO method | 2 | 3 |
| 11 | Calculation of energy level from wave fuction | 1 | 3 |
| 12 | Physical picture of bonding and anti bonding wave fuction | 1 | 3,4 |
| 13 | Concept of sigma ,sigma anti -bonding ,pi and pi anti bonding orbital and their characteristic | 2 | 4 |
| 14 | Hybrid orbital sp ,sp ² ,sp ³ . | 1 | 4 |
| 15 | Calculation of coefficient of AO | 1 | 4 |
| 16 | H ₂ valence bond model ,comparision of MO and VB model | 2 | 4,5 |
| | Unit -3 spectroscopy | | 5 |
| 17 | Introduction electromagnetic radiation,spectrum basic feature of different spectrometer | 2 | 5 |
| 18 | Statement of the Born- Openheimer approximation,degree of freedom | 1 | 5 |
| 19 | Rotational spectroscopy ,Diatomic molecule ,energy level of a rigid rotator | 2 | 5,6 |
| 20 | Selection rules ,spectral intensity ,using population distribution ,determination of bond length | 2 | 6 |
| 21 | Qualitative descpriation of non rigid rotator and isotop effect | 2 | 6 |
| 22 | Vibrational spectroscopy energy level of simple harmonic oscillator ,selection rule | 2 | 6 |
| 23 | Pure vibrational spectrum ,intensity | 2 | 7 |
| 24 | Determination of force constant and qualitative relation force constant and bond energy | 2 | 7 |
| 25 | Effect of anharmonic motion and isotop on the spectrum | 1 | 7 |
| 26 | Idea of vibrational frequencies of different function groups | 1 | 7,8 |
| 27 | Concept of polarizability ,pure vibrational raman spectra of die atomic molecule ,selection rule | 2 | 8 |
| 28 | Electronic spectroscopy | 1 | 8 |

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करौली (राज०)

| | | | |
|----|---|---|-------|
| 29 | Concept of potential energy curve for bonding and anti bonding molecular orbital | 2 | 8,9 |
| 30 | Qualitative description of selection rule and frank condon principal | 2 | 9 |
| | Qualitative description of sigma ,pi and nMO ,their energy level s and the respective transition. | 2 | 9 |
| 31 | Unit 4 photochemistry | | |
| 32 | Interaction of radiation with matter ,difference between thermal and photochemical process | 2 | 10 |
| 33 | Law of photochemistry ;grothus-drapper law ,stark –Einstein law | 1 | 10 |
| 34 | Jablonski diagram depicting various processes occurring in the exited state | 2 | 10 |
| 35 | Qualitative description of fluorescence ,phosphorescence, | 1 | 11 |
| | Non-radiative process ,quantum yield ,actinometry ,photosensitized reaction energy transfer process | 2 | 12 |
| 36 | Unit 5 Physical properties and molecular structure | | |
| 37 | Optical activity ,polarization ,orientation of dipole in an electrical field | 2 | 12 |
| 38 | Dipole moment ,measurent of dipole moment temperature method and refractivity method | 2 | 12 |
| 39 | Dipole moment and structure of molecule | 2 | 13 |
| 40 | Magnetic properties | 1 | 13 |
| 41 | Paramagnetism ,diemagnetis and ferromagnetic | 1 | 13 |
| 42 | Solution general introduction | 1 | 14 |
| 43 | Ideal and non-ideal solution and their properties | 2 | 14 |
| 44 | Method of expressing concentration of solution | 2 | 14 |
| 45 | Activity and activity coefficient ,roult and Henry law ,Azeotropes-ethanol water system | 2 | 15 |
| 46 | Nernst Distribution law Thermodyamic derivation application | 2 | 15 |
| 47 | Dilute solution,colligative properties ,relative lowering of vapour pressure | 2 | 15,16 |
| 48 | Molecular weight determination | 2 | 16 |
| 49 | Osmotic pressure and its measurement ,determination | 2 | 16 |
| 50 | Osmosis pressure and its measurement | 2 | 16 |
| 51 | Determination of molecular weight from osmotic pressure | 1 | 17 |
| 52 | Elveation of boiling point and depression in freezing point | 2 | 17 |
| 53 | Experimental method for determination various colligative properties | 2 | 17 |
| 54 | Abnormal value and abnormal molar mass degree of dissociation and association of solutes | 2 | 18 |


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VEENA MEMORIAL P. G. COLLEGE B. Sc. III year

KARALI RAJASTHAN

LECTURE PLAN

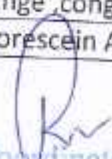
paper-II

ORGANIC CHEMISTRY

year

| S.No | Topic | No of lecture | WEEK |
|------|--|---------------|------|
| | Unit I NMR spectroscopy | | |
| 1 | Nuclear shielding and deshielding | 2 | 1 |
| 2 | Chemical shift and molecular structure | 2 | 1 |
| 3 | Spin-spin splitting and coupling constant | 3 | 1 |
| 4 | Area of signal ,interpretation of PMR spectra of simple organic molecule | 1 | 2 |
| 5 | Spectra of following molecule such as ethyl bromide ,ethanol ,acetaldehyde ,1,1,2 tribromoethane, ethyl acetate ,toluene and acetophenon | 2 | 2 |
| 6 | Problem pertaining to the struture elucidation of simple bcompound using UV,IR,and PMR | 2 | 2 |
| | Unit II organo metallic compound | | |
| 7 | Organo magnesium compound , | 1 | 3 |
| 8 | Grinard reagent formation ,structure and chemical reaction ,organo zinc compound | 3 | 3 |
| 9 | Formation and chemical reaction ,organo sulphur compound | 2 | 3 |
| 10 | Nomenliture structure feature ,method of formation | 2 | 4 |
| 11 | Chemical reaction of thiols, thio ethers and Sulphonic acid ,sulphoamide | 3 | 4 |
| 12 | sulphaguanidine | 1 | 4 |
| | Unit III Hetrocycle | | |
| 13 | Molecular orbital picture and aromatic characteristic of pyroll | 2 | 4,5 |
| 14 | Furane,thiophene and pyridine | 2 | 5 |
| 15 | <i>Method of synthesis and chemical reaction with particular emphasis on the mechanism of electrophilic substituion</i> | 2 | 5 |
| 16 | <i>Mechanism of nucleophilic substitution reaction in pyridinederivative</i> | 2 | 5 |
| 17 | Comparison of basicity of pyridine ,piperidine and pyrol | 1 | 5 |
| 18 | Introduction ton condensed five and six membered heterocycle | 1 | 5 |
| 19 | Preparation and reaction of indol,quauinoline and iso quinoline and isoquinoline with reference to fisher indole synthesis | 2 | 5,6 |
| 20 | Skraup synthesis and Bischler –Nepieralski synthesis | 2 | 6 |
| 21 | Mechanism of electrophile substitution reaction of indol ,quinolene and isoquinolene | 2 | 6 |
| | Unit 4 organic synthesis via Enolate | | |
| 22 | Acidity of alpha hydrogen ,Alkylation of die methyl menolate and ethyl acetate | 2 | 6 |
| 23 | Synthesis of ethyl acetoacetate | 2 | 7 |
| 24 | Claisen condensation keto enol tautomerism of ethyl acetate | 2 | 7 |
| 25 | Alkylatrtion of 1,3 dithians | 2 | 7 |

| | | | |
|----|--|---|-------|
| 26 | Alkylation and acylation of enamines | | |
| 27 | General introduction of carbohydrate and nomenclature | 2 | 8 |
| 28 | Monosaccharide mechanism of osazone formation | 1 | 8 |
| 29 | Interconversion of glucose and fructose | 3 | 8,9 |
| 30 | Chain lengthening and chain shorting of aldose | 2 | 9 |
| 31 | Configuration, Erythro and threo diastereomers | 2 | 9 |
| 32 | Conversion of glucose into mannose, formation of glycoside | 2 | 9 |
| 33 | Ester and ether | 2 | 10 |
| 34 | Determination of ring size | 1 | 10 |
| 35 | Cyclic structure of D glucose, | 1 | 10 |
| 36 | Mutarotation | 1 | 10 |
| 37 | Structure of ribose and deoxyribose | 1 | 11 |
| 38 | Introduction to disaccharids and polysaccharide without involving structure determination | 2 | 12 |
| | | 3 | 12 |
| | Unit 5 Amino acid, peptide, protein and nucleic | | |
| 39 | Classification, structure and stereochemistry of amino acid | | |
| 40 | Acid-base behaviour | 2 | 12 |
| 41 | Iso electric point and electrophoresis | 1 | 13 |
| 42 | Preparation and alpha amino acid | 1 | 13 |
| 43 | Structure and nomenclature of peptide and protein | 1 | 13 |
| 44 | Classification of protein, peptide structure determination | 2 | 13 |
| 45 | End group analysis selective hydrolysis of peptide | 1 | 14 |
| 46 | Classical peptide synthesis, solid phase peptide synthesis | 1 | 14 |
| 47 | Structure of peptide and protein | 1 | 14 |
| 48 | Level of protein structure | 2 | 15 |
| 49 | Protein denaturation/renaturation | 1 | 15 |
| 50 | Introduction constituent of nucleic acid | 1 | 15 |
| 51 | Constituent of nucleic acid, Ribonucleoside and ribonucleotide | 2 | 15 |
| 52 | Double helical structure of DNA | 2 | |
| 53 | Natural fats, edible and industrial oils of vegetable origin | 2 | 16 |
| 54 | Common fatty acid, glycerides, hydrogenation of unsaturated oils | 3 | 16 |
| 55 | Saponification value, iodine value, acid, soap | 2 | 16 |
| 56 | Synthetic detergent, alkyl and aryl sulphonates | 2 | 17 |
| 57 | Addition or chain growth polymerization, Ziegler-Natta polymerization | 2 | 17 |
| | | 3 | 17,18 |
| 58 | Free radical polymerization, ionic vinyl polymerization, | | |
| 59 | Ziegler Natta polymerization and vinyl polymers | 2 | 18 |
| 60 | Condensation or step growth polymerization | 2 | 18 |
| 61 | Polyester, polyamide, phenol-formaldehyde resin, urea-formaldehyde resin | 2 | 18 |
| | | 3 | 19 |
| 62 | Epoxy resin and polyurethanes | | |
| 63 | Natural and synthetic rubbers | 2 | 19 |
| 64 | Colour and constitution, classification of dyes, synthesis of methyl orange, Congo red, malachite green, crystal violet, phenolphthalein | 1 | 19 |
| | | 2 | 20 |
| 65 | Fluorescein, Alizarin and indigo | | |
| | | 2 | 20 |


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VEENA MEMORIAL P.G. COLLEGE B.Sc. 2nd year
KARALI RAJASTHAN

LECTURE PLAN

paper-III

Physical chemistry

Year

| s.No | Topic | Number of lecture | WEEK |
|------|---|-------------------|------|
| | Unit-1 Thermodynamic -1 | | |
| 1 | Definition of thermodynamic term, system, surrounding etc | 2 | 1 |
| 2 | Type of system, intensive and extensive properties, state and path function and their significance | 2 | 1 |
| 3 | Thermodynamic process, concept of heat and work | 2 | 1 |
| 4 | First law of thermodynamic, statement, internal energy and enthalpy, | 3 | 2 |
| 5 | Heat capacity, heat capacities at constant volume and pressure and their relationship, | 2 | 2 |
| 6 | Joule Thomson coefficient and inversion temperature | 2 | 2,3 |
| 7 | Calculation of W, q, du and dH for expansion of ideal gas under isothermal and adiabatic condition for reversible process | 2 | 3 |
| 8 | Standard state, standard enthalpy of formation, Hess law of heat | 2 | 3 |
| 9 | Heat of reaction at constant pressure | 2 | 3,4 |
| 10 | Enthalpy of neutralization, bond dissociation energy thermo chemical data | 2 | 4 |
| 11 | Temperature dependence of enthalpy Kirchhoff equation | 2 | 4 |
| | Unit ii thermodynamic II | | |
| 12 | Second law of thermodynamic need for the law, different statement of law, Carnot cycle and its efficiency, Carnot theorem | 2 | 4 |
| 13 | Concept of entropy as a state function, entropy as a function of V and T | 3 | 5 |
| 14 | Entropy as a function of P and T , Entropy change in physical change | 2 | 5 |
| 15 | Clausius inequality and entropy as a criterion of spontaneity and equilibrium | 2 | 5 |
| 16 | Entropy change in ideal gases and mixing of gases | 2 | 6 |
| 17 | Third law of thermodynamic, Nernst heat theorem | 2 | 6 |
| 18 | Statement and concept of residual entropy | 2 | 6 |
| 19 | Evaluation of absolute entropy from heat capacity data | 2 | 7 |
| 20 | Gibbs and Helmholtz function as thermodynamic quantities | 2 | 8 |
| 21 | ΔA and ΔG as criteria for thermodynamic equilibrium and spontaneity, | 2 | 8 |
| 22 | Their advantage over entropy change. Variation of G and A with P, V and T | 3 | 8 |
| | Unit 3 chemical EQUILIBRIUM | | |
| 24 | Equilibrium constant and free energy | 3 | 9 |
| 25 | Thermodynamic derivation of law of mass action, Le Chatelier's principle. | 2 | 9 |
| 26 | Reaction isotherm and reaction isochors, isochore-Clausius-Clapeyron and application | 2 | 9 |
| 27 | Phase equilibrium | 1 | 10 |
| 28 | Statement and meaning of term, phase, component and degree of freedom | 2 | 10 |
| 29 | Gibbs phase rule, phase equilibria of one component system, water-carbon dioxide and sulphur system | 2 | 10 |

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| | | | |
|----------------------------------|--|---|-------|
| 30 | Phase equilibria of two component system solid liquid equilibria | 2 | 11 |
| 31 | Lead-silver system, solid solution compound formation with congruent | 2 | 12 |
| 32 | Melting point mg and Zn system and incongruent melting point NaCl – water system, freezing mixture | 2 | 12 |
| 33 | Acetone dry ice. Partially miscible liquid | 2 | 12 |
| 34 | Phenol water system | 2 | 13 |
| 35 | Lower and upper consolute temperature, effect of impurity on consolute temperature | 2 | 13 |
| Unit 4 Electrochemistry I | | | |
| 36 | Electric transport conduction in metal and in electrolyte solution | 2 | 13 |
| 37 | Specific conductance and equivalent conductance | 2 | 14 |
| 38 | Measurement of equivalent conductance | 2 | 14 |
| 39 | Variation of equivalent and specific conduction with dilution | 3 | 14 |
| 40 | Migration of ion and Kohlrausch law . | 2 | 15 |
| 41 | Arrhenius theory of electrolyte dissociation and limitation | 2 | 15 |
| 42 | Debye –Huckel Onsager equation for strong electrolyte | 2 | 15,16 |
| 43 | Transport number | 1 | 16 |
| 44 | Determination by Hittorf's method and moving boundary method | 3 | 16 |
| 45 | Application of conductivity measurement | 2 | 16 |
| 46 | Determination of degree of dissociation ,determination of K_a of acid | 3 | 17 |
| 47 | Conductometric titration | 2 | 18 |
| Unit 5 Electrochemistry 2 | | | |
| 48 | Type of electrode gas metal ion electrode ,metal-metal ion electrode | 2 | 18 |
| 49 | Redox electrode ,,Electrode reaction ,Nernst equation derivation of cell EMF and single electrode potential | 3 | 18 |
| 50 | Standard hydrogen electrode ,reference electrode, standard electrode potential, sign convention , | 3 | 19 |
| 51 | Electrochemical series and its significance | 2 | 19 |
| 52 | Electrolyte and galvanic cell Reversible and Irreversible cells | 3 | 20 |
| 53 | Conventional representation of electrochemical cell. | 2 | 20 |
| 54 | EMF of a cell and its measurement | 2 | 20 |
| 55 | Computation of cell EMF | 1 | 21 |
| 56 | Calculation of thermodynamic quantities of cell reaction ,polarization | 3 | 21 |
| 57 | Over potential and hydrogen over voltage . | 2 | 22 |
| 58 | Concentration without transport , liquid junction potential | 2 | 22 |
| 59 | Application of concentration cell ,valency of ion | 3 | 22 |
| 60 | Solubility product and activity coefficient ,determination of solubility product of a sparingly soluble salt . | 3 | 23 |
| 61 | Definition of pH using hydrogen electrode by potentiometric titration | 3 | 23 |
| 62 | Buffer mechanism of buffer action ,Henderson –Hasselbalch equation | 2 | 23 |
| 63 | Hydrolysis of salts | 2 | 23 |


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 करौली (राज.)

VEENA MEMORIAL P.G. COLLEGE

Bsc 1st year
KARALI RAJASTHAN

LECTURE PLAN paper- II

ORGANIC CHEMISTRY

year

| S.No | TOPIC | NUMBER OF LECTURE | Week |
|---|--|-------------------|------|
| UNIT -1 STRUCTURE AND BONDING | | | |
| 1 | Hybridization, bond length and bond angle, bond energy | 1 | 1 |
| 2 | Localized and delocalized chemical bond, vanderwall interaction | 1 | 1 |
| 3 | Inclusion compound, clathrates, charge transfer complex | 1 | 1 |
| 4 | Resonance, Hyperconjugation | 1 | 1 |
| 5 | Inductive effect, hydrogen bonding | 1 | 1 |
| 6 | Curved arrow notation, Drawing electron movement with arrow, | 1 | 1 |
| 7 | Half headed arrow, Homolytic cleavage and Heterolytic cleavage bond breaking | 1 | 2 |
| 8 | Type of reagent electrophiles and nucleophile. | 2 | 2 |
| 9 | Type of organic reaction, Energy considerations | 1 | 2 |
| 10 | Carbocation, carbanion, free radical, carbene, Arynes, Nitrene, | 2 | 2,3 |
| 11 | Formal charge, method of determination of reaction mechanism | 2 | 3 |
| Unit 2 stereochemistry of organic compound | | | |
| 12 | Concept of isomerism, Type of isomerism, optical isomerism | 2 | 3 |
| 13 | Element of symmetry, molecular chirality enantiomer, | 2 | 3 |
| 14 | Stereogenic center, optical activity, properties of enantiomer, | 1 | 4 |
| 15 | Chiral and Achiral molecule with two stereogenic center, | 1 | 4 |
| 16 | Diastereomers, threo and erythro diastereomer, meso compound | 2 | 4 |
| 17 | Resolution of enantiomer | 1 | 4 |
| 18 | D/L and R/S nomenclature | 3 | 4,5 |
| 19 | Determination of configuration of geometrical isomer, E/Z nomenclature | 2 | 5 |
| 20 | Conformational analysis of ethane and n-butane | 2 | 5 |
| 21 | Conformation of cyclohexane, axial and equatorial bond, conformation of monosubstituted cyclohexane derivative, Newman projection formulae | 2 | 5 |
| 22 | Difference between configuration and conformation | 1 | 6 |
| Unit 3 alkane and cycloalkane | | | |
| 23 | Nomenclature, method of preparation, chemical reaction isomerism in alkane | 1 | 6 |
| 24 | Method of preparation, physical properties | 1 | 6 |
| 25 | Chemical reaction of alkane, mechanism of free radical halogenations of alkane | 1 | 6 |
| 26 | Orientation, reactivity and selectivity | 1 | 6 |
| 27 | Nomenclature, method of preparation, chemical reaction | 1 | 7 |

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| | | | |
|----|--|---|-------|
| 28 | Bayer strain theory and its limitation, ring strain in small ring | 1 | 7 |
| 29 | The case of cyclopropane ring : banana bond | 1 | 7 |
| | Unit 4 Alkene ,cycloalkane ,Diene and Alkynes | | |
| 30 | Nomenclature of alkene, method of preparation ,mechanisms of dehydration of alcohol of alkyl halide | 1 | 7 |
| 31 | Regioselectivity in alcohol ,dehydration ,saytzeff rule, Hoffmann elimination | 1 | 7,8 |
| 32 | Physical properties and relative stabilities of alkene | 1 | 8 |
| 33 | Chemical reaction of alkenes mechanism involved in dehydration | 2 | 8 |
| 34 | Electrophilic and free radical ,ozonolysis ,hydration | 2 | 8 |
| 35 | Polymerization of alkenes, substitution at the allylic and vinylic position of alkenes | 1 | 8,9 |
| 36 | Industrial application of ethylene and propane, method of formation | 1 | 9 |
| 37 | Conformation and chemical reaction of cycloalkane | 1 | 9 |
| 38 | Nomenclature and classification of dienes isolated ,conjugated and cumulated diene. | 1 | 10 |
| 39 | Structure of allenes and butadiene, method of preparation, | 2 | 10 |
| 40 | Polymerization, chemical reaction 1,2 and 1,4 addition, diels alder reaction | 2 | 10 |
| 41 | Alkynes Nomenclature structure and bonding in alkynes .method of preparation. | 2 | 11 |
| 42 | Chemical reaction, acidity of alkynes mechanism of electrophilic and nucleophilic addition reaction , | 2 | 12 |
| 43 | Hydroboration-oxidation ,metal-ammonia reduction ,oxidation and polymerisation | 2 | 12 |
| | Unit -5 ARENES Aromaticity ,alkyl and aryl Halides | | |
| 44 | Nomenclature of benzene derivative ,Aryl group aromatic nucleus and side chain structure of benzene | 2 | 12 |
| 45 | Molecular formula and kekule structure , stability and carbon -carbon bond length of benzene, | 2 | 13 |
| 46 | Resonance and Molecular picture | 1 | 13 |
| 47 | Aromaticity the huckle rule aromatic ions . | 1 | 13 |
| 48 | Aromatic electrophilic substitution reaction | 2 | 14 |
| 49 | Role of sigma and pi complex .mechanism of nitration ,halogenations ,sulphonation ,mercuration and freidel-craft reaction | 2 | 14 |
| 50 | Activating and deactivating substitutions ,orientation and ortho and para ratio | 2 | 14 |
| 51 | Side chain reaction of benzene derivative and birch reduction | 1 | 15 |
| 52 | Nomenclature of alkyl and aryl halide , method of preparation ,chemical reaction | 1 | 15 |
| 53 | Mechanism of nucleophilic substitution reaction of alkyl halide | 1 | 15 |
| 54 | SN2 and SN1 reaction with energy profile diagram | 1 | 15,16 |
| 55 | Polychlorinated compound chloroform and carbon tetrachloride , method of preparation of aryl halide , | 1 | 16 |
| 56 | Nuclear and side chain reaction ,addition ,elimination and the elimination - addition mechanism of nucleophilic aromatic substitution reaction | 2 | 16 |
| 57 | Reactivity of alkyl ,allylic ,vinyl and aryl halide | 1 | 16 |
| 58 | Synthesis of D.D.T and B.H.C | 1 | 16 |

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Lecture plan - I (2018-19)

B Sc and B. Sc B Ed pt -3

Mathematics (Paper – I)

Linear Algebra and complex Analysis

| S. No. | Topic | No. of Lecture | Week |
|-------------------------------------|--|----------------|--------|
| Unit – 1 : Linear Algebra | | | |
| 1 | Definition and examples of a vector spaces | 1 | I |
| 2 | Subspace of a vector space | 1 | I |
| 3 | Linear combination and linear span | 2 | I |
| 4 | Linear dependence and independence of vectors | 1 | I |
| 5 | Direct sums of subspaces | 2 | I,II |
| Unit – 2 Linear Algebra | | | |
| 6 | Basis and Dimension of finitely generated spaces | 2 | II |
| 7 | Quotient space | 1 | II |
| 8 | Linear transformations | 2 | II |
| 9 | Rank and nullity of linear transformations | 3 | III |
| Unit – 3 Linear Algebra | | | |
| 10 | Characteristic values and characteristics vector of matrices | 3 | III |
| 11 | Cayley-Hamilton theorem | 1 | IV |
| 12 | Diagonalization of matrices | 2 | IV |
| 13 | Elementary row and column transformations | 2 | IV |
| 14 | Solution of system linear equations by elementary transformations | 3 | IV,V |
| Unit -4 complex Analysis -I | | | |
| 15 | Complex numbers as ordered pairs, geometrical representation of complex numbers | 3 | V |
| 16 | Stereographic projection of complex numbers | 3 | V,VI |
| 17 | Limit, continuity and differentiability of complex valued functions | 1 | VI |
| 18 | Analytic function, Cauchy-Riemann equations | 2 | VI |
| 19 | Harmonic functions | 3 | VI,VII |
| 20 | Determination of conjugate function | 2 | VII |
| Unit -5 complex Analysis -II | | | |
| 21 | Mapping or transformation, isogonal and conformal mappings | 2 | VII |
| 22 | Necessary and sufficient conditions for conformal mappings | 2 | VIII |
| 23 | Mobious transformation, fixed points | 3 | VIII |
| 24 | Cross-ratio, inverse points | 1 | VIII |
| 25 | Mappings by elementary functions | 3 | IX |
| 26 | Mapping $w = \frac{1}{z} \left(z + \frac{1}{z} \right)$, the inverse transformation $z = \sqrt{w}$ | 3 | IX |

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KARAULI, RAJASTHAN

Lecture plan (2018-19)

B Sc and B. Sc B Ed pt -3


Paper-2

Mathematical Statistics and Linear Programming

| S. No. | Topic | No. of lecture | Week |
|---|--|----------------|---------|
| Unit-1 Moments and Probability | | | |
| 1 | Central moments | 1 | I |
| 2 | First four moment in terms of raw moments and vice-versa | 1 | I |
| 3 | Karl-Pearson's and Beta and Gamma coefficients | 1 | I |
| 4 | Measures of skewness and Kurtosis | 1 | I |
| 5 | Random experiment, Sample space | 1 | I |
| 6 | Events, types of events | 1 | I |
| 7 | Probability and conditional probability of an event | 1 | II |
| 8 | Independent events | 1 | II |
| 9 | Theorems of compound and total probabilities | 1 | II |
| 10 | Baye's theorems and its simple applications | 1 | II |
| Unit-2 Mathematical Expectations | | | |
| 11 | Random variable, discrete and continuous random variables | 3 | II,III |
| 12 | Probability distribution of a discrete random variable | 1 | III |
| 13 | Probability density function of a continuous random variables | 2 | III |
| 14 | Distribution functions | 2 | III |
| 15 | Mathematical expectation of a random variable | 2 | IV |
| 16 | Mathematical expectation of a function of random variable | 2 | IV |
| 17 | Moments and moment generating function | 5 | IV,V |
| 18 | Cumulants and cumulants generating function | 3 | V |
| 19 | Characteristic Functions | 2 | VI |
| Unit-3 Discrete and continuous distributions | | | |
| 20 | Bernouli distribution | 3 | VI |
| 21 | Binomial distribution | 3 | VI,VII |
| 22 | Poisson distribution | 2 | VII |
| 23 | Normal distribution | 2 | VII |
| Unit-4 Linear programming problem | | | |
| 24 | Linear programming, variables objective function and constraints | 2 | VIII |
| 25 | Mathematical form of a LPP | 1 | VIII |
| 26 | Graphical method of solution of two variable linear programming problems | 5 | VIII,IX |
| 27 | Line and line segment in the Euclidean space R^n | 3 | IX |
| 28 | Convex set, hyper convex combination and convex polyhedron | 3 | IX,X |
| 29 | Extreme point of a convex set | 3 | X |
| 30 | Basic solution of a system of linear equations | 4 | X,XI |
| 31 | Slack and surplus variables | 2 | XI |
| 32 | Standard form of a LPP and their feasible solution | 2 | XI,XII |

| | | | |
|---|--|---|------------|
| 33 | Basic feasible solution and optimal basic feasible solution of a LPP | 3 | XII |
| 34 | Replacement of basis vector , improved BFS | 2 | XII |
| 35 | Unbounded solutions | 2 | XIII |
| 36 | Condition of optimality | 2 | XIII |
| 37 | Simplex algorithm | 2 | XIII |
| 38 | Artificial variables | 2 | XIV |
| 39 | Charne's Big-M method | 2 | XIV |
| Unit-5 Duality and Assignment Problems | | | |
| 40 | Dual and primal LPP | 6 | XIV,XV |
| 41 | Standard form of primal problem | 3 | XV,XVI |
| 42 | Formation of dual of a standard primal problem | 4 | XVI |
| 43 | Fundamental theorem of duality | 3 | XVI,XVII |
| 44 | Solution of a LPP by solving its dual by simplex method | 6 | XVII,XVIII |
| 45 | Assignment problems | 8 | XVIII,XIX |


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Lecture plan (2018-19)

B Sc and B. Sc B Ed pt -3

Paper-3

Numerical Analysis and C- programming

| S.No. | Topic | No. of lecture | Week |
|---|--|----------------|----------|
| Unit-1 Principles of C- Programming | | | |
| 1 | Algorithms, Flowcharts, constants and variables | 2 | I |
| 2 | Data type, Declaration of storage class | 2 | I |
| 3 | Assigning values of variables, symbolic constant | 2 | I |
| 4 | Operators and expressions | 2 | II |
| 5 | Common I/O operators decision making | 2 | II |
| 6 | Branching and loops: if, if-else, nested if-else | 2 | II |
| 7 | WHILE, DO, for loop | 3 | III |
| 8 | While statement, switch-case statement | 2 | III |
| 9 | Array: One dimensional, Two dimensional | 2 | III,IV |
| 10 | Initialization of two dimensional arrays | 2 | IV |
| Unit-2 User defined function in C and Operators | | | |
| 11 | Function declaration | 1 | IV |
| 12 | Calling a function and category of function | 1 | IV |
| 13 | Nesting of functions recursion, pointers | 1 | IV |
| 14 | Operators :Forward difference, Backward difference, shift and inverse shift operators | 1 | V |
| 15 | Differentiation-D, central difference, mean difference operators | 1 | V |
| 16 | Central sum, divided difference operator | 1 | V |
| 17 | Relation between various operators | 1 | V |
| 18 | Forward and backward difference table | 1 | V |
| 19 | Factorial notations | 1 | V |
| Unit-3 Interpolation | | | |
| 20 | Interpolation with equal intervals | 1 | VI |
| 21 | Interpolation with unequal intervals | 1 | VI |
| 22 | Central difference interpolation | 1 | VI |
| 23 | Inverse interpolation | 3 | VI |
| Unit-4 Numerical differentiation and Integration | | | |
| 24 | Numerical differentiation | 1 | VII |
| 25 | Numerical integrations: Trapezoidal rule | 1 | VII |
| 26 | Weddle rule | 1 | VII |
| 27 | Simpson's rules | 1 | VII |
| 28 | Gauss quadrature formula | 1 | VII |
| Unit-5 Solution of equations | | | |
| 29 | Solution of equations by bisection method | 3 | VII,VIII |
| 30 | Solution of equations by Regula – Falsi method | 3 | VIII |
| 31 | Solution of equations by Newton-Raphson method | 3 | VIII,IX |
| 32 | Solution of ordinary differential equations by Picard's method | 4 | IX |
| 33 | Solution of ordinary differential equations by Euler's method | 4 | X |

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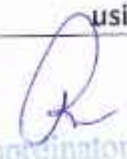
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Lecture plan - I (2018-19)

Mathematics (Paper – III)

Numerical analysis and C Programming

| S.No. | topic | Practical delivered |
|-------|---|---------------------|
| 1 | To find the sum of harmonic series | 2 |
| 2 | To solve the quadratic equation | 2 |
| 3 | Evaluation of binomial coefficient using do and while loops | 2 |
| 4 | To print a grouped frequency table using switch case statements | 2 |
| 5 | To find minimum cost of operation which consists two components using Break and continue statements | 2 |
| 6 | To calculate the average of numbers | 2 |
| 7 | To sort a matrix using array | 2 |
| 8 | To sort a list and calculate its median using array, if – then - else | 3 |
| 9 | To find the Area of curve using trapezoidal rule | 2 |
| 10 | To copy one string into another string | 2 |
| 11 | Writing a string using % format | 2 |
| 12 | To form a grouped frequency table using array and for loop | 2 |
| 13 | To calculate the standard deviation of given data using array, if and break statement | 3 |
| 14 | To open a file and appending using pointers | 3 |


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Lecture plan - I (2018-19)

B.Sc. B.Sc. B. Ed part-I

Mathematics (Paper – I)

Number system and Abstract Algebra

| S. No. | Topic | No. of Lecture | Week |
|---------------------------------------|---|----------------|----------|
| Unit – 1 : Divisibility Theory | | | |
| 1 | Division Algorithm | 1 | 1 |
| 2 | Greatest common Divisor and its algorithm | 1 | 1 |
| 3 | Linear Diophantine equations of two variables | 2 | 1 |
| 4 | Fundamental theorem of arithmetic | 1 | 1 |
| 5 | Congruences | 2 | 1,11 |
| 6 | Chinese Remainder Theorem | 1 | 11 |
| 7 | Euler phi – function and Primitive Roots | 1 | 11 |
| 8 | Binary Operation, Addition and multiplication modulo operations | 1 | 11 |
| 9 | Definition of Group with Examples and simple properties | 2 | 11 |
| Unit – 2 | | | |
| 10 | Permutation Group | 1 | 111 |
| 11 | Cycle, transpositions, Even and Odd permutations | 1 | 111 |
| 12 | Alternating Group | 2 | 111 |
| 13 | Order of an element of a group and its properties | 2 | 111 |
| 14 | Subgroups of a groups of a group with its properties | 3 | 1V |
| 15 | Cyclic groups and their properties | 3 | IV |
| 16 | Cosets | 3 | V |
| 17 | Index of a subgroup | 1 | V |
| 18 | Lagrange theorem and its applications | 2 | V |
| Unit – 3 | | | |
| 19 | Normal Subgroups with properties | 3 | VI |
| 20 | Quotient Groups | 2 | VI |
| 22 | Group Homomorphism with its kernel and properties | 2 | VI,VII |
| 23 | Isomorphism | 3 | VII |
| 24 | Cayle's theorem | 1 | VII |
| 25 | Automorphism | 2 | VII,VIII |
| 26 | Fundamental theorem of homomorphism | 1 | VIII |
| Unit -4 | | | |
| 27 | Rings | 2 | VIII |
| 28 | Zero Divisors | 2 | VIII |
| 29 | Integral Domains | 1 | IX |
| 30 | Field | 2 | IX |
| 31 | Characteristic of Ring | 2 | IX |
| 32 | Subrings | 2 | IX,X |
| 33 | Subfield | 2 | X |
| 34 | Prime field | 2 | X |
| 35 | Ring homomorphism | 3 | X,XI |
| 36 | Ring Isomorphism | 2 | XI |
| 37 | Ideals and their properties | 3 | XI,XII |
| Unit -5 | | | |
| 38 | Principal ideals and principal ideal ring | 3 | XII |

| | | | |
|----|--|---|----------|
| 39 | Prime ideal | 2 | XII |
| 40 | Maximal ideal | 2 | XIII |
| 41 | Fundamental theorem of ring homomorphism | 1 | XIII |
| 42 | Euclidean ring and its properties | 2 | XIII |
| 43 | Polynomial over a ring | 2 | XIII,XIV |
| 44 | Polynomial ring | 2 | XIV |
| 45 | Polynomial over an integral domain and a field | 2 | XIV |


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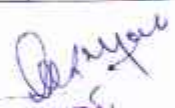
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Paper-3
Vector Calculus and Coordinate Geometry

| S.no. | Topic | No. of lecture | WEEK |
|---------------|---|----------------|--------|
| Unit-1 | | | |
| 1 | Vector Differentiation | 2 | I |
| 2 | Vector Integration | 2 | I |
| 3 | Gradient and problems on gradient | 2 | I |
| 4 | Divergence and problems on divergence | 2 | II |
| 5 | Curl and problems on curl | 2 | II |
| 6 | Vector identities | 2 | II |
| 7 | Line and surface integrals | 3 | III |
| 8 | Gauss divergence theorem and their applications | 2 | III |
| 9 | Green's theorem and their applications | 2 | III,IV |
| 10 | Stoke's theorem and their applications | 2 | IV |
| Unit-2 | | | |
| 11 | Parabola, standard equations | 1 | IV |
| 12 | Parabola in parametric coordinates | 1 | IV |
| 13 | Length of chord of parabola | 1 | IV |
| 14 | Tangent and normal of parabola and its properties | 1 | V |
| 15 | Two tangents from a point of parabola | 1 | V |
| 16 | Chord of contact of parabola | 1 | V |
| 17 | pole and Polar of parabola | 1 | V |
| 18 | Chord with given middle point of parabola | 1 | V |
| 19 | Diameter and three normal from a point of parabola | 1 | V |
| 20 | Ellipse and their standard equations | 1 | VI |
| 21 | Auxiliary circle of ellipse | 1 | VI |
| 22 | Eccentric angle of ellipse and related problems | 1 | VI |
| 23 | Tangent, Normal, two tangent from a point of the ellipse | 3 | VI |
| 24 | Chord of contact of ellipse | 1 | VII |
| 25 | pole and Polar of ellipse | 1 | VII |
| 26 | Chord whose middle point is given | 1 | VII |
| 27 | Diameter and conjugate diameter of ellipse | 1 | VII |
| 28 | Four normal from a point of ellipse | 1 | VII |
| Unit-3 | | | |
| 29 | Hyperbola and its standard equations | 1 | VII |
| 30 | Parametric equation of hyperbola and related problems | 2 | VIII |
| 31 | Asymptotes, equation referred to as axes of hyperbola | 2 | VIII |
| 32 | Conjugate diameter of hyperbola and rectangular hyperbola | 2 | VIII |
| 33 | Polar equation of various curves | 1 | IX |
| 34 | Polar equation of line | 1 | IX |
| 35 | Polar equation of parabola, ellipse and hyperbola | 2 | IX |
| 36 | Polar equation of circle | 1 | IX |
| 37 | Polar equation of directrix, tangent, normal polar and asymptotes | 2 | IX,X |
| Unit-4 | | | |
| 38 | | | |
| 39 | Standard equation of sphere in various forms | 1 | X |
| 40 | Plane section of sphere | 1 | X |
| 41 | Sphere through the circle of intersection of two spheres | 1 | X |

| | | | |
|---------------|---|---|---------|
| 42 | Power of a point with respect to a sphere | 1 | X |
| 43 | Tangent plane, polar plane and polar line of sphere | 1 | X |
| 44 | Angle of intersection of two spheres | 1 | XI |
| 45 | Length of tangent of sphere | 1 | XI |
| 46 | Radical plane and radical axis of sphere | 1 | XI |
| 47 | Co-axial system of spheres | 1 | XI |
| 48 | Limiting points of sphere | 1 | XI |
| 49 | Cone, homogeneous equation of cone in x, y, z variables | 2 | XI, XII |
| 50 | Cone with given vertex and given base | 1 | XII |
| 51 | Enveloping cone | 1 | XII |
| 52 | Condition for the general equation to represent a cone | 1 | XII |
| 53 | Tangent plane of cone | 1 | XII |
| 54 | Reciprocal cone | 1 | XII |
| 55 | Angles between two lines, in which a plane cuts a cone | 1 | XIII |
| 56 | Three mutually perpendicular generators and right circular cone | 1 | XIII |
| 57 | Right circular cylinder | 1 | XIII |
| 58 | Enveloping cylinder | 1 | XIII |
| Unit-5 | | | |
| 59 | Central conicoid and its standard equations | 1 | XIII |
| 60 | Tangent plane and condition of tangency of central conicoid | 1 | XIII |
| 61 | Director sphere of central conicoid | 1 | XIV |
| 62 | Polar plane, polar lines of central conicoid | 2 | XIV |
| 63 | Section with given center of central conicoid | 1 | XIV |
| 64 | Enveloping cone and enveloping cylinder of central conicoid | 2 | XIV |
| 65 | Ellipsoid: Normal, six normal from a point | 3 | XV |
| 66 | Cone through six normal | 1 | XV |
| 67 | Conjugate diameters and their properties of ellipsoid | 2 | XV |

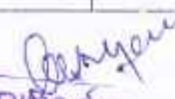

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Paper-2
Advanced calculus

| S. No. | Topic | No. of lecture | Week |
|---------------|--|----------------|----------|
| Unit-1 | | | |
| 1 | Polar coordinates | 1 | I |
| 2 | Angle between radius vector and tangent | 1 | I |
| 3 | Polar sub tangent and subnormal | 1 | I |
| 4 | Perpendicular from pole on tangent | 1 | I |
| 5 | Pedal equation of a curve | 1 | I |
| 6 | Derivative of length of an arc in Cartesian and polar coordinates | 1 | I |
| 7 | curvature | 1 | II |
| 8 | Radius of curvature and its formula in various forms | 1 | II |
| 9 | Centre of curvature | 1 | II |
| 10 | Chord of curvature | 1 | II |
| Unit-2 | | | |
| 11 | Partial differential coefficient of a function of two or more variables | 3 | II,III |
| 12 | Total differential coefficient | 1 | III |
| 13 | Composite function | | |
| 14 | Euler's theorem on homogeneous function of two , three and m – variables | 2 | III |
| 15 | First and second differential coefficient of an implicit function | 2 | III |
| 16 | Taylor's theorem for a function of two variable | 2 | IV |
| 17 | Jacobians with properties | 5 | IV,V |
| 18 | Maxima ,minima and saddle points of function of two and three variables | 3 | V |
| 19 | Lagrange's method of undetermined multipliers | 2 | V |
| Unit-3 | | | |
| 20 | Asymptotes | 3 | VI |
| 21 | Envelopes | 3 | VI |
| 22 | Evolutes | 2 | VII |
| 23 | Test for point of inflexion and multiple points | 2 | VII |
| 24 | Test for concavity and convexity | 2 | VII |
| 25 | Tracing of curves in Cartesian and Polar coordinates | 4 | VIII |
| 26 | Unit-4 | | |
| 27 | Quadrature | 3 | VIII,IX |
| 28 | Rectification | 3 | IX |
| 29 | Volumes and surface of solid of revolution | 3 | IX,X |
| 30 | Differentiation under the sign of Integration | 4 | X |
| Unit-5 | | | |
| 31 | Beta and Gamma functions | 6 | X,XI |
| 32 | Double integrals and their Evaluation by changing of order and changing into polar coordinates | 6 | XI,XII |
| 33 | Triple integrals and their Evaluation | 4 | XII,XIII |
| 34 | Dirichlet's double and triple integrals with their Liouville's extention | 3 | XIII |


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VEENA MEMORIAL DEGREE COLLEGE

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Lecture plan - I (2018-19)

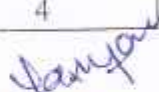
Mathematics (Paper – I)

Number system and Abstract Algebra

Practical

| S. No. | Topic | Practical delivered |
|--------|--|---------------------|
| | | |
| 1 | Form graph of polynomial of four or more degree | 2 |
| 2 | Simplification of logical circuits using Boolean algebra | 2 |
| 3 | Formation of truth table of Boolean functions | 2 |
| 4 | Curve tracing of plane curves including polar curves | 6 |
| 5 | Application of fundamental theorem on morphism of groups | 3 |
| 6 | Find roots of algebraic equation by graphical method | 3 |
| 7 | Application of Lagrange's theorem | 3 |
| 8 | Problems related to permutations and permutation groups | 4 |
| 9 | Problems related to ring | 4 |
| 10 | problems related to Kuttak | 4 |


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Lecture Plan

B.Sc./B.Sc.B.Ed PART III(PHYSICS) 2022-23

Paper-I - Solid State Physics

| S.N | Name of Topics | No. of Lecture | Week |
|-----------------|--|----------------|----------|
| Unit – I | | | |
| 1. | Crystal Binding and Crystal Structure: Crystal bonding, ionic bond, binding energy of ionic crystal, determination of the repulsive exponent, | 1 | I |
| 2. | covalent bonding, metallic bonding, molecular or Vander Waal's bonding, hydrogen bonding, Space lattice and Crystal structure | 2 | I |
| 3. | reciprocal lattice, Bravis lattice, Miller indices and crystal structure, Spacing of planes in Crystal Lattice, | 1 | I |
| 4. | Atomic Packing, Simple cubic structure, Face centered cubic structure, | 2 | I |
| 5. | Hexagonal closed packed structure, Pervoskite structure, X-ray diffraction and Bragg's law, Laue pattern. | 1 | II |
| UNIT- II | | | |
| 6. | Thermal Properties of Solids, Concepts of Thermal Energy and Phonons, Internal Energy and Specific Heat, | 2 | II |
| 7. | The Various theories of Lattice specific Heat of Solids, The Einstein Model, Vibrational Modes of Continuous Medium | 2 | II |
| 8. | Debye Model, Electronic Contribution of the internal Energy to the Specific Heat of Metals, Thermal Conductivity of the Lattice | 2 | II,III |
| UNIT-III | | | |
| 9. | Band Theory of Solids, Formation of bands, Periodic Potential of a solid, Wave function in a Periodic Lattice and Bloch Theorem, | 2 | III |
| 10. | Number of States in the Band, Kronig Penny model, Velocity of the Bloch electrons and Dynamical effective mass, | 2 | III |
| 11. | Momentum, Crystal Momentum and Physical Origin of the Effective Mass, Negative Effective Mass and Holes | 4 | III,IV |
| 12. | distinction between metals, insulators and intrinsic semiconductors. | 3 | IV |
| UNIT-IV | | | |
| 13. | Electrical Conductivity, Drude-Lorentz Theory of Electrical Conductivity, Boltzman Transport Equation, | 4 | V |
| 14. | Sommerfield Theory of Electrical Conductivity, Mathiessen's Rule, Thermal Conductivity and Widemann-Franz's Law, The Hall Effect | 4 | V,VI |
| 15. | Superconductivity, Introduction, Meisner's effect, The Isotope Effect and Electron-Phonon Interaction, | 3 | VI |
| 16. | The Effect of the Superconductivity Transition on properties, Special Features of Superconducting Materials, | 2 | VI,VII |
| 17. | London's equation, Flux Quantization, Qualitative discussion of BCS Theory of Superconductivity, | 3 | VII |
| 18. | Cooper Pairs, Applications of Superconductors, Josephson Junction | 3 | VII,VIII |
| UNIT-V | | | |
| 19. | Magnetic Properties, Origin of Atomic Magnetism, Dynamic of Classical Dipole in Magnetic field, | 4 | VIII |
| 20. | Magnetic Susceptibility, Phenomenon of Diamagnetism, Paramagnetism, Paramagnetism of Ionic Crystal, | 3 | VIII,IX |

| | | | |
|-----|---|---|------|
| 21. | Ferromagnetism, Temperature Dependence of saturation of Spontaneous Magnetization, | | |
| 22. | The Paramagnetic Region, The nature of ferromagnetism, Nature and Origin of Weiss Molecular Field | 3 | IX |
| 23. | Heisenberg's Exchange Interaction, Quantum Theory of Ferromagnetism, | 3 | IX,X |
| 24. | Relation between J_0 (Exchange Integral) | 4 | X |
| 25. | and I (Weiss Constant), Ferromagnetism Domain | 3 | XI |


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Lecture Plan

B.Sc./B.Sc.B.Ed PART III (PHYSICS) 2022-23

Paper-II- Nuclear Physics

| S.N | Name of Topics | No. of Lecture | Week |
|----------|---|----------------|----------|
| Unit – I | | | |
| 1. | Nuclear Properties: Rutherford's scattering and Nucleus model of atom, Properties of Nuclei, Mass, Charge, | 1 | I |
| 2. | Estimation of charge density, size, density, spin, parity, statistics, magnetic dipole moment, | 2 | I |
| 3. | Electric Quadrupole Moment, Mass Defect and systematics of Binding energy, Constituents of nucleus | 1 | I |
| 4. | Discovery of neutron and proton-neutron hypothesis, Nuclear potential, Nuclear Force, Liquid drop model | 2 | I |
| 5. | Semi Empirical Mass formula and its applications; 1. Alpha decay, 2. Mass Parabola, 3. Mirror Nuclei | 1 | II |
| 6. | Nuclear Mass measurements, Aston's Mass Spectrograph, Double Focussing Mass Spectrograph and Doublet method | 2 | II |
| UNIT-II | | | |
| 7. | Nuclear Fission:- The Discovery of Nuclear Fission, The Energy Release in Fission, Mass and Energy distribution of fission products, | 2 | II |
| 8. | Neutron emission in fission, Energetics of Spontaneous fission, Bohr Wheeler theory and Quantum effects | 2 | II,III |
| 9. | Neutron induced fission, Fission cross-section and threshold, Nuclear Fission as a source of Energy, | 2 | III |
| 10. | The Nuclear Chain Reaction, condition of controlled chain Reaction, The principal of Nuclear Reactors | 2 | III |
| 11. | classification of Reactors, Typical Reactors, Power of Nuclear Reactor, Critical size of Thermal Reactors | 4 | III,IV |
| 12. | The Breeder Reactor, Reprocessing of the Spent Fuel, Physical, Chemical and Biological effects of nuclear radiations, Radiation hazards. | 3 | IV |
| UNIT-III | | | |
| 13. | Nuclear Fusion: Nuclear Fusion reactions, The sources of stellar Energy, The problems of controlled nuclear fusion, | 4 | V,VI |
| 14. | The plasma-Fourth State of the Matter, fusion Reaction, Energy Balance and Lawson Criterion, Magnetic Confinement of Plasma | 3 | VI |
| 15. | Classical plasma Losses from the Magnetic Container, Anomalous Losses, Turbulence and plasma Instabilities | 2 | VI,VII |
| 16. | The Laser fusion Problem, fusion Reactor: | 3 | VII |
| 17. | Elementary particles: Classification of Elementary Particles, Quantum Numbers, Fundamental Interactions | 3 | VII,VIII |
| 18. | Unified approach (Basic ideas), The conservation Laws, Quarks Basic idea of color and quark confinement | 4 | VIII |
| UNIT-IV | | | |
| 19. | Accelerators: Ion sources, Cock-Craft-Walton High Voltage Generators, Van De- Graff Generators, Drift Tube Linear Accelerators, | 3 | VIII,IX |
| 20. | Wave Guide Accelerator, Magnetic Focussing In cyclotron, Synchrocyclotron, | 3 | IX |
| 21. | Betatron, the Electromagnetic Induction Accelerator, Electron | 3 | IX,X |

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| | | | |
|-----|---|---|---------|
| | Synchrotron, Proton Synchrotron. | | |
| | UNIT-V | | |
| 22. | Particle and Radiation Detectors: Ionisation Chamber, Region of Multiplicative Operation | 4 | X |
| 23. | Proportional Counter, Geiger-Muller Counter, Cloud Chamber | 4 | XI |
| 24. | Cosmic Rays: Discovery of Cosmic Rays, Nature of Cosmic Rays, soft | 3 | XI, XI |
| 25. | hard component variation in cosmic rays- (1) Latitude Effect | 3 | XI |
| 26. | 2) East-West Asymmetry Directional Effect | 3 | XI, XII |


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Lecture Plan


B.Sc./B.Sc.B.Ed PART III(PHYSICS) 2022-23

Paper III - Elementary Quantum Mechanics and Spectroscopy

| S.N | Name of Topics | No. of Lecture | Week |
|-----------------|--|----------------|----------|
| Unit – I | | | |
| 1. | Experimental Evidence of Quantum Theory: limitations of classical theory to explain, specific heat of solids, Black Body Radiation, Planck's quantum hypothesis and qualitative discussion of radiation law, | 1 | I |
| 2. | photoelectric effect, Compton effect, Matter Waves, | 2 | I |
| 3. | De Broglie relation, Davison Germer experiment, electron interference experiment, Uncertainty principle | 1 | I |
| 4. | (i) Position & moments (ii) Energy & Time (iii) Angular displacement and momentum. | 2 | I |
| 5. | (i) Position & moments (ii) Energy & Time (iii) Angular displacement and momentum. its application such as (i) Non existence of electron in nucleus, | 1 | II |
| 6. | ii) Ground state energy of H-atom, (iii) Ground state energy of harmonic oscillator (iv) Natural width of spectral lines. | 2 | II |
| UNIT-II | | | |
| 7. | Schrodinger's Wave Mechanics: Schrodinger's equation, Its need and justification, time dependent and time independent forms, physical significance of the wave function and its interpretation, probability current density | 2 | II |
| 8. | Operators in quantum mechanics, Definition of an operator, linear and Hermitian operators, State function, Expectation value of dynamical variables, position momentum and energy, Fundamental postulates of quantum mechanics, | 2 | II,III |
| 9. | Eigenfunction and eigen values, Degenracy. Orthogonality of eigenfunction, Commutation relations | 2 | III |
| 10. | Ehrenfest's theorem and complementarity wave packet, group and phase velocities, Principle of superposition | 2 | III |
| 11. | construction of one dimensional wave packet, its momentum representation, (Fourier transform), | 4 | III,IV |
| 12. | Gaussian wave packet its momentum representation (Fourier transform) Gaussian wave packet, Diffraction at a single slit, Uncertainty principle. | 3 | IV |
| UNIT-III | | | |
| 13. | Simple solution of Schrodinger's Equation: Time independent Schrodinger equation and stationary state solution, | 4 | V,VI |
| 14. | Boundary and continuity conditions on the wave function, particle in one dimensional box | 3 | VI |
| 15. | Eigenfunction and eigenvalues, discrete energy levels, generalisation to three dimensions and degeneracy of levels | 2 | VI,VII |
| 16. | Potential steps and rectangular potential barrier, calculation of reflection and transmission coefficient. | 3 | VII |
| 17. | Qualitative discussion of the application to alpha decay, Square well potential problem calculation of transmission coefficient | 3 | VII,VIII |
| UNIT-IV | | | |
| 18. | Bound state problems : Particle in one dimensional infinite potential well and finite depth potential well–energy eigen– | 4 | VIII |

| | | | |
|--------|---|---|---------|
| | values and eigenfunction, | | |
| 19. | transcendental equation and its solution, Simple harmonic oscillator (one dimensional case) and qualitative discussion of its eigenfunctions, energy eigenvalues. Zero point energy, | 3 | VIII,IX |
| 20. | parity symmetric and antisymmetric wave function's with graphical representation. Schrodinger equation for a spherically symmetric potential, Schrodinger equation for a one electron atom in spherically coordinates | 3 | IX |
| 21. | separation of variables, Orbital angular momentum and quantization spherical harmonics, energy levels of H-atom, Shapes of $n = 1$ and $n = 2$ wave functions, Average value of radius of H-atom | 3 | IX,X |
| UNIT-V | | | |
| 21. | Applications of Quantum Theory to Atomic Spectroscopy: Quantum features of spectra of one electron atoms, Frank-Hertz experiment and discrete energy states, Stern and Gerlach experiment, spin | 4 | X |
| 22. | magnetic moment, Spin orbit coupling and qualitative explanation of fine structure, Atoms in magnetic field Zeeman splitting, Stark Effect | 4 | XI |
| 23. | Molecular Spectroscopy: Qualitative features of molecular spectra, Rigid rotator discussion of energy, eigenvalues and eigenfunction | 3 | XI,XI |
| 24. | rotational energy levels of diatomic molecules, Rotational spectra, vibrational energy levels of diatomic molecules | 3 | XI |
| 25. | vibrational spectra, vibrational rotational spectra | 3 | XI,XII |


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Lecture plan: 2018-19

B.Sc/ B.Sc. B.Ed. –II (Mathematics)

Paper –I

Real analysis and theory of convergence

| S.N | Topic | No. of lecture | Week |
|-----------------|---|----------------|----------|
| Unit –I | | | |
| 1. | The set real numbers as a complete ordered field | 2 | I |
| 2. | Incompleteness of \mathbb{Q} | 2 | I |
| 3. | Archimedean and denseness properties of \mathbb{R} | 2 | I |
| 4. | Modulus | 1 | II |
| 5. | Intervals | 2 | II |
| 6. | Definition of sequence | 1 | II |
| 7. | Theorems on limit of sequence | 2 | II |
| 8. | Bounded and monotonic sequence | 2 | III |
| 9. | Nested interval theorem | 2 | III |
| 10. | Cauchy's sequence | 2 | III |
| 11. | Cauchy's convergence criterion | 1 | IV |
| Unit-II | | | |
| 12. | Convergence of series of non – negative terms | 2 | IV |
| 13. | Various tests: comparison; D' Alembert's ratio | 1 | IV |
| 14. | Cauchy's nth root | 1 | IV |
| 15. | Raabe's test | 1 | IV |
| 16. | Gauss Test | 1 | V |
| 17. | Logarithmic test | 1 | V |
| 18. | Demorgan and Bertand's test | 2 | V |
| 19. | Cauchy's condensation | 1 | V |
| 20. | Proof of tests not required only for convergence | 1 | V |
| 21. | Alternating series | 2 | VI |
| 22. | Leibnitz's test | 1 | VI |
| 23. | Series of arbitrary terms | 2 | VI |
| 24. | Absolute and condition convergence | 1 | VI |
| 25. | Abel's and Dirichlet's tests | 2 | VII |
| Unit-III | | | |
| 26. | Equivalent sets | 1 | VII |
| 27. | Finite and infinite sets denumerable set | 2 | VII |
| 28. | Countable and uncountable sets | 1 | VII |
| 29. | Interior point of a set | 1 | VIII |
| 30. | Open set | 1 | VIII |
| 31. | Limit point of a set Bolzano- Weierstrass theorem | 2 | VIII |
| 32. | Closed set | 1 | VIII |
| 33. | Dense in itself and perfect sets | 2 | VIII, IX |
| 34. | Cantor's ternary set | 2 | IX |
| Unit- IV | | | |
| 35. | Definition of limit of a function | 1 | IX |
| 36. | Continuity of a function – Cauchy's and Heine's Definition with their equivalence | 2 | IX |
| 37. | Type of Discontinuities | 1 | X |
| 38. | Properties of continuous functions defined on closed intervals | 2 | X |
| 39. | Uniform continuity | 2 | X |
| 40. | Differentiability: Role's theorem | 2 | X, XI |
| 41. | Lagrange's and Cauchy's mean value theorems and their geometrical interpretations | 3 | XI |

| | | | |
|---------------|---|---|-----------|
| 42. | Taylor's theorem with various forms of remainders | 2 | XI |
| 43. | Darboux's intermediate value theorem for derivatives | 2 | XII |
| Unit-v | | | |
| 44. | Darboux sums and their properties | 2 | XII |
| 45. | Riemann integral | 3 | XII, XIII |
| 46. | Integrability of continuous and monotonic functions | 3 | XIII |
| 47. | Mean value theorems of integral calculus | 2 | XIII |
| 48. | The fundamental theorem of integral calculus | 2 | XIV |
| 49. | Improper integrals and their convergence comparison tests | 4 | XIV |
| 50. | Abel's and Dirichlet's tests | 2 | XV |


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Lecture Plan: 2018-19

B.Sc/ B.Sc. B.Ed. -II (Mathematics)

Differential equations (Ordinary and Partial)

Paper – II

| S.N | Name of Topics | No. of Lecture | Week |
|-----|--|----------------|-----------|
| | Unit – I | | |
| 1. | Order and Degree of a differential equation | 2 | I |
| 2. | Differential equations of first order and first degree | 2 | I |
| 3. | Variables separation | 2 | I |
| 4. | Homogeneous equations | 2 | II |
| 5. | Linear equation and equations reducible to linear form | 2 | II |
| 6. | Exact differential equations and equations reducible to exact form | 2 | II |
| 7. | Differential equations of first order but not first degree | 4 | III |
| 8. | Solvable for x, y, p Clairaut's form | 4 | III, IV |
| 9. | Singular solutions | 4 | IV |
| 10. | Geometrical meaning of a differential equation | 2 | V |
| 11. | Orthogonal trajectories | 4 | V |
| | Unit – II | | |
| 12. | Linear differential equation with constant coefficients | 6 | VI |
| 13. | Homogeneous linear differential equations | 3 | VII |
| 14. | Total differential equations | 6 | VII, VIII |
| | Unit – III | | |
| 15. | Linear differential equations of second order | 3 | VIII |
| 16. | Transformation by changing the dependent / independent variable | 3 | IX |
| 17. | Method of variation of parameters | 3 | IX |
| 18. | Exact differential equations and certain particular forms of equation | 3 | X |
| | Unit – IV | | |
| 19. | Partial differential equations of first order | 6 | X, XI |
| 20. | Lagrange's solution | 6 | XI, XII |
| 21. | Charpit's general method of solution | 6 | XII, XIII |
| | Unit – V | | |
| 22. | Partial differential equations of second and higher orders | 4 | XIII, XIV |
| 23. | Classification of linear partial differential equations of second order | 4 | XIV |
| 24. | Homogeneous and non – homogeneous equations with constant coefficient | 4 | XIV, XV |
| 25. | Partial differential equations reducible to equations with constant coefficients | 4 | XV, XVI |
| 26. | Monge's method | 4 | XVI |


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Lecture plan: 2018-19

B.Sc/ B.Sc. B.Ed. –II (Mathematics)

Paper – III

Mechanics (Statics and Dynamics)

| S.N | Name of topic | No. of lecture | Week |
|-------------------|--|----------------|------------|
| Unit – I | | | |
| 1. | Analytical condition of equilibrium of rigid body under coplanar forces | 15 | I, II, III |
| 2. | Friction | 15 | III, IV, V |
| Unit – II | | | |
| 3. | Center of Gravity | 12 | VI, VII |
| 4. | Common Catenary | 12 | VIII, IX |
| Unit – III | | | |
| 5. | Simple harmonic motion | 6 | X |
| 6. | Motion under repulsion varying as the distance from a point | 6 | XI |
| 7. | Motion under inverse square law | 4 | XII |
| 8. | Motion under earth's attraction | 4 | XII, XIII |
| 9. | Hooke's Law | 4 | XIII |
| 10. | Horizontal and vertical elastic strings Rectilinear motion in a resisting medium | 6 | XIV |
| Unit – IV | | | |
| 11. | Velocity and acceleration along radial and transverse direction and along tangential and normal directions | 6 | XV |
| 12. | Projectiles | 6 | XVI |
| 13. | Motion on horizontal and inclined planes | 6 | XVII |
| Unit – V | | | |
| 14. | Direct and oblique impact | 6 | XVIII |
| 15. | Constrained motion – Circular and Cycloidal | 6 | XIX |


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B.SC.PART 1

PAPER 1 INORGANIC CHEMISTRY

SESSION 2020-2021

| S.No. | Topic | Lecture | Week |
|---|--|---------|-------------|
| Unit 1 Atomic Structure | | | |
| 1 | Idea of de broglie matter waves | 1 | I |
| 2 | Heisenbergs principle | 2 | I |
| 3 | Atomic orbital shrodinger equation | 3 | I |
| 4 | Quantum numbers shapes of orbitals | 4 | II |
| 5 | Aufbau, pauli, hunds rules | 2 | II |
| 6 | Effective nuclear charge radii ionization energy | 5 | III |
| 7 | Electron affinity | 2 | III |
| Unit 2 Chemical Bonding | | | |
| 8 | VBT | 2 | IV |
| 9 | Hybridization | 3 | IV |
| 10 | Shapes of molecules | 3 | IV,V |
| 11 | Vsepr theory | 3 | V |
| 12 | Bond energy | 3 | V,VI |
| 13 | M. O. Theory | 5 | VI,VII |
| Unit 3 Ionic Solid | | | |
| 14 | Lattice deffects | 2 | VII |
| 15 | Lattice energy | 3 | VII |
| 16 | Solvation energy | 3 | VIII |
| 17 | Solubility | 2 | VIII |
| 18 | Polarizability and metallic bond | 4 | VIII, IX |
| 19 | Hydrogen bonding | 2 | IX |
| 20 | Vander waals forces | 3 | IX,X |
| Unit 4 S Block Elements And Chemistry Of Xenon | | | |
| 21 | Diagonal relationship | 4 | X |
| 22 | Comperative study | 5 | XI |
| 23 | Hydrides | 2 | X |
| 24 | Solvation and complexation tendency | 4 | XII |
| 25 | function in bio system | 2 | XII |
| 26 | Alkyl and aryl of s block elements | 4 | XIII |
| 27 | Properties of noble gases | 2 | XIII |
| 28 | Chemistry of xenon | 3 | XIV |
| 29 | structure and bonding in xenon compound | 3 | XIV |
| 30 | Comperative study of p block elements | 3 | XV |
| Unit 5 chemistry of compounds | | | |
| 31 | Borazine | 2 | XV |
| 32 | Fullerene | 1 | XV |
| 33 | Carbides | 3 | XVI |
| 34 | Silicates | 3 | XVI |
| 35 | Interhalogen compounds | 3 | XVII |
| 36 | S ₄ n ₄ | 2 | XVII |
| 37 | Hudrides of boron | 4 | XVII, XVIII |

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B.SC. PART 3

PAPER1 INORGANIC CHEMISTRY

SESSION 2018-2019

| S.No. | Topic | No of Lecture | Week |
|-------|--|---------------|-------------|
| | Unit 1 Hard and Soft Acids and Bases | | |
| 1 | Classification of acids and bases | 4 | I |
| 2 | Pearsons theory | 2 | I |
| 3 | Strength | 2 | II |
| 4 | Symbiosis | 1 | II |
| 5 | Theoretical basis of hardness and softness | 3 | II |
| 6 | Electronegativity | 2 | III |
| 7 | Applications of hsb | 3 | III |
| | Unit 2 Metal Ligand Bonding In Transition Metal Complexes | | |
| 8 | Limitation of vbt | 2 | III,IV |
| 9 | Elementary idea of cft | 2 | IV |
| 10 | Cfse in octa, tetra, and square planar complexes | 4 | IV,V |
| 11 | Factor affecting of cfse | 4 | V |
| 12 | John teller distortions | 1 | VI |
| 13 | Applications of cftmagnetic propertiesof complexes | 3 | VI |
| | Unit 3 Electronic Spectra Of Transition Metal Complexes | | |
| 14 | Types of electronic transition | 3 | VI,VII |
| 15 | Selection rule for d-d transition | 3 | VII |
| 16 | Ground states | 3 | VII,VIII |
| 17 | Orgel diagramthermodynamic and kinetic aspects | 3 | VIII |
| 18 | Factor affecting of stability | 2 | VIII |
| 19 | Substitution reaction of square planar complexes | 3 | IX |
| | Unit 4 Organometallic Chemistry | | |
| 20 | Definition, nomenclature, and classification of organometallic compounds | 3 | IX |
| 21 | Preparation, properties, bonding, and applications of alkyl and aryls of Li. | 6 | X |
| 22 | Al | 3 | XI |
| 23 | Hg | 3 | XI |
| 24 | Sn | 3 | XII |
| 25 | Ti | 3 | XII |
| 26 | Homogeneous hydrogenation | 1 | XIII |
| 27 | Carbonyls | 4 | XIII |
| 28 | Individual carbonyls | 4 | XIV |
| | Unit 5 Bioinorganic Chemistry | | |
| 29 | Essential and trace elemets | 2 | XIV |
| 30 | Porphyrin | 2 | XV |
| 31 | Haemoglobin and myoglobin | 4 | XV |
| 32 | Biological role of alkali and alkali earth metals | 3 | XVI |
| 33 | Nitrogen fixation | 3 | XVI |
| 34 | Silicon | 4 | XVII |
| 35 | Phosphenes | 4 | XVII, XVIII |


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B.SC PART 2

PAPER 1 INORGANIC CHEMISTRY

SESSION 2019-20

| S.No. | Topic | No. Of Lecture | week |
|--|--|----------------|----------|
| Unit 1 | | | |
| Chemistry Of Elements Of First Transition Series | | | |
| 1 | Definition of transition elements | 1 | I |
| 2 | Characteristics properties of d- block elements | 5 | I |
| 3 | Binary compounds | 3 | II |
| 4 | Coordination number and geometry | 5 | II, III |
| Unit 2 Chemistry Of Elements Of Third Transition Series | | | |
| 5 | General characteristics | 4 | III |
| 6 | Comparative treatment with their 3d series, Spectral and stereochemistry | 6 | IV |
| Unit 3 Coordination Chemistry | | | |
| 7 | Werners Theory | 3 | V |
| 8 | EAN | 2 | VI |
| 9 | Chelates | | |
| 10 | Nomenclature of compounds | 4 | VI |
| 11 | Isomerism | 4 | VII |
| 12 | VBT | 3 | VII,VIII |
| Unit 4 Chemistry Of Lanthanide And Actinides | | | |
| 13 | Electronic structure, oxidation states, radii | 5 | VIII |
| 14 | Contraction | 2 | IX |
| 15 | Complexation Tendency | 4 | IX |
| 16 | Lanthanide compounds in oxidation states | 4 | X |
| 17 | Lanthanide compounds | 6 | X,XI |
| 18 | General features of actinides | 4 | XI |
| 19 | Separation of np, pu, am from U | 3 | XII |
| 20 | Difference between ln and an. | 3 | XII |
| Unit 5 Acids And Bases, Non Aqueous Solvents, Oxidation And Reduction | | | |
| 21 | Arrhenius and bronsted lowry | 4 | XIII |
| 22 | Lux flood Theory | 3 | XIII,XIV |
| 23 | Solvent system, conjugated acid base pair | 3 | XIV |
| 25 | Lewis concept | 3 | XV |
| 26 | Physical properties of solvents | 3 | XV |
| 27 | Types of solvents | 2 | XVI |
| 28 | Features | 3 | XVI |
| 29 | Reaction in NH_3 and SO_2 | 6 | XVI,XVII |
| 30 | Redox cycle | 4 | XVII |
| 31 | Water stability region | 1 | XVII |
| 32 | Frost diagrams linear points | 2 | XVIII |
| 33 | Latimer diagram | 2 | XVIII |
| 34 | Pourbaix diagrams | 2 | XVIII |
| 35 | Extraction of elements | 3 | XIX |

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VEENA MEMORIAL PG COLLEGE KARALI, RAJASTHAN**Lecture plan****Class – B.Sc./ B.Sc. B.Ed.-Part I****Subject/Paper- Botany paper – I****Diversity of microbes & Cryptogams (Thallophyta)**

| S. No. | Topic | No. of Lecture | Weeks |
|--------|---|----------------|-----------|
| | UNIT – I | | |
| | Viruses & Bacteria | | |
| 1 | A general account of viruses and Mycoplasma | 10 | I, II |
| 2 | Bacteria – structure | 2 | II |
| 3 | Nutrition | 4 | III |
| 4 | Reproduction | 4 | III, IV |
| 5 | Economic importance | 1 | IV |
| 6 | General accounts of cyanobacteria | 1 | IV |
| 7 | Economic importance | 1 | IV |
| 8 | Nostoc Oscillatoria | 2 | IV, V |
| | UNIT- II | | |
| 1 | Algae, general characters, classification, and economic importance | 3 | V |
| 2 | Important features and life history of Chlorophyceae | 1 | V |
| 3 | Volvox, Oedogonium | 4 | V, VI |
| 4 | Coleochaete, Chara | 4 | VI, VII |
| | UNIT -III | | |
| 1 | Algae, general characters | 1 | VII |
| 2 | Classification and economic importance, important features and life history of Xanthophyceae | 3 | VII |
| 3 | Vaucheria | 2 | VII, VIII |
| 4 | Phaeophyceae, Ectocarpus | 4 | VIII |
| 5 | Sargassum | 2 | VIII, IX |
| 6 | Rhodophyceae – Polysiphonia | 3 | IX |
| | UNIT -IV | | |
| 1 | Fungi: general characters, classification and economic importance, important features and life history of Mastigomycotina | 3 | IX, X |
| 2 | Phytophthora Oomycotina Albugo Ascomycotina saccharomyces, Penicillium, Erysiphae | 6 | X, XI |
| 3 | Basidiomycotina – Puccinia, Ustilago, and Agaricus | 6 | XI, XII |

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|---|---|---|-----------|
| 4 | Deuteromycotina -Colletotrichum, Alternaria | 5 | XII |
| | UNIT -V | | |
| 1 | Plant diseases and general account of lichens | 4 | XIII |
| 2 | Special study about green ear disease | 4 | XIII, XIV |
| 3 | White rust disease of wheat | 2 | XIV |
| 4 | Smut disease | 2 | XIV |
| 5 | Citrus canker | 1 | XV |
| 6 | Tobacco mosaic disease | 1 | XV |
| 7 | Little leaf of Brinjal disease | 1 | XV |
| 8 | Rust in wheat | 2 | XV |


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VEENA MEMORIAL PG COLLEGE KARALI, RAJASTHAN

Lecture plan

Class – B.Sc./ B.Sc. B.Ed.-Part I

Subject/Paper- Botany paper – II

Diversity of microbes & Cryptogams (Bryophyta, Pteridophyta and Paleobotany)

| S. No. | Topic | No. of Lecture | Weeks |
|--------|---|----------------|-------------|
| | UNIT – I | | |
| | Bryophyta - | | |
| 1 | General characteristics, classification of Bryophyta | 4 | I |
| 2 | Economic importance and alternation of generation | 3 | I, II |
| | UNIT- II | | |
| 1 | Structure, reproduction, and economic importance of Hepaticopsida – Riccia, Marchantia, and Porella | 13 | II, III, IV |
| 2 | Anthocerotopsida – Anthoceros | 4 | IV |
| 3 | Bryopsida – Sphagnum, Polytricum | 6 | V |
| | UNIT-III | | |
| 1 | Pteridophyta- the first vascular land plant | 2 | VI |
| 2 | types of steles | 4 | VI |
| 3 | important characteristics of Psilopsida | 2 | VII |
| 4 | Lycopsida | 2 | VII |
| 5 | Sphenopsida | 3 | VII, VIII |
| 6 | Pteropsida | 3 | VIII |
| 7 | Classification of Pteridophyta | 2 | VIII |
| | UNIT- IV | | |
| 1 | Structure and reproduction in lycopodium | 3 | IX |
| 2 | Selaginella | 3 | IX |
| 3 | Equisetum | 3 | X |
| 4 | Adiantum | 3 | X |
| 5 | Marsilea | | XI |
| | UNIT –IV | | |

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| | | | |
|---|------------------------------|---|-----------|
| 1 | Fossilization | 1 | XI |
| 2 | Types of fossils | 3 | XI, XII |
| 3 | Techniques of fossil study | 2 | XII |
| 4 | Geological time scale | 2 | XII |
| 5 | General characters of Rhynia | 2 | XII, XIII |
| 6 | Lapidodendron | 2 | XIII |
| 7 | Calamites | 2 | XIII |
| 8 | Cladoxylon in brief | 2 | XIII, XIV |


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VEENA MEMORIAL PG COLLEGE KARAUJI, RAJASTHAN

Lecture plan

Class – B.Sc./ B.Sc. B.Ed.-Part I

Subject/Paper- Botany paper – III

(Cell biology, genetics, and plant breeding)

| S. No. | Topic | No. of Lecture | Weeks |
|--------|---|----------------|-----------|
| | UNIT – I | | |
| | The cell envelopes- | | |
| 1 | Plasma membrane – bilayer lipid structure | 7 | I |
| 2 | Functions of the cell wall | 5 | II |
| 3 | Ultrastructure of prokaryotic and eukaryotic cells | 3 | III |
| 4 | Structure and functions of other organelles – Golgi bodies, E.R., Peroxisomes, vacuoles | 8 | III, IV |
| 5 | Structures and functions of the nucleus- ultrastructure, nuclear membrane, nucleolus | 7 | IV, V |
| | UNIT- II | | |
| 1 | Chromosome organization- | 1 | VI |
| 2 | Morphology, centrosome, telomere | 3 | VI |
| 3 | Chromosome alterations- deletion, duplication, translocation, inversion | 3 | VI, VII |
| 4 | Variations in chromosome number – aneuploidy, polyploidy | 4 | VII |
| 5 | Sex chromosome | 2 | VII, VIII |
| 6 | DNA The genetic material – DNA structure | 4 | VIII |
| 7 | Replication of DNA | 2 | VIII, IX |
| 8 | Protein interactions | 3 | IX |
| 9 | The nucleosome model | 4 | IX, X |
| 10 | Genetic code | 2 | X |
| 11 | Satellite DNA | 2 | X |
| 12 | Repetitive DNA | 2 | XI |
| 13 | Cell division – mitosis and meiosis | 5 | XI, XII |
| | UNIT-III | | |

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| | | | |
|----|---|----|-------------|
| 1 | Genetic inheritance- | | |
| 2 | Mendelian law of segregation and independent assortment, linkage analysis | 6 | XII, XIII |
| 3 | Allelic and nonallelic Interaction | 4 | XIII |
| 4 | Gene expression- the structure of a gene | 3 | XIII, XIV |
| 5 | Transfer of genetic information | 4 | XIV |
| 6 | Transcription | 2 | XV |
| 7 | Translation | 4 | XV |
| 8 | Protein synthesis – ribosomes | 4 | XVI |
| 9 | RNA | 4 | XVI |
| 10 | Regulation of gene expression in prokaryotes | 6 | XVII, XVIII |
| 11 | Lac operon | 3 | XVIII |
| | UNIT –IV | | |
| 1 | Genetic variations - | 3 | XVIII, XIX |
| 2 | Mutations | 4 | XIX |
| 3 | Spontaneous and induced mutation | 4 | XIX |
| 4 | Extranuclear genome - | 1 | XX |
| 5 | Presence and functions of mitochondrial DNA and plastid DNA | 5 | XX, XXI |
| 6 | Plasmids | 4 | XXI, XXII |
| | UNIT- V | | |
| | Plant breeding- | | |
| 1 | Methods of Plant breeding | 10 | XXII, XXIII |
| 2 | Selection (mass, Pureline, and clonal) | 6 | XXIII, XXIV |
| 3 | Introduction and acclimatization | 3 | XXIV, XXV |
| 4 | Hybridization | 3 | XXV |
| 5 | Hybrid Vigour | 2 | XXV, XXVI |
| 6 | Inbreeding depression | 4 | XXVI |


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VEENA MEMORIAL PG COLLEGE KARAULI, RAJASTHAN

Lecture plan

Class – B.Sc./ B.Sc. B.Ed.-Part I

Subject/Paper- Botany Practical

| S. No. | Topic | No. of Lecture | Weeks |
|--------|---|----------------|----------------|
| 1 | Microscopic preparations and study of the following algal material: Nostoc, Oscillatoria, Chlamydomonas, Volvox, Coleochaete, Oedogonium, Vaucheria, Chara, Ectocarpus, Sargassum, and Polysiphonia | 24 | I, II, III, IV |
| 2 | Staining of different types of bacteria | 6 | V |
| 3 | Study of some locally available plant diseases caused by Viruses, Mycoplasma, Bacteria, and Fungi in field/Laboratory | 6 | VI |
| 4 | TMV, Little leaf of Brinjal, Citrus canker, green ear disease in Bajra | 6 | VII |
| 5 | Study of external morphology and microscopic preparations of the following Bryophytes: Riccia, Marchantia, Anthoceros, Sphagnum, and Polytrichum. | 18 | VIII, IX, X |
| 6 | Microscopic examination of fossil slides, specimen/ Photograph- Rhynia, Lapidodendron, Calamites, and Cladoxylon. | 6 | XI |
| 7 | Microscopic temporary, double stained preparations and study of stem/ cone/ sporocarp of Selaginella, Equisetum, and Marsilea. | 12 | XII, XIII |


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Lecture plan

Class– B.Sc. B.Ed./B.Sc.-Part II

Subject/Paper- Botany paper – I

(Diversity and systematics of seed plants- Gymnosperms)

| S. No. | Topic | No. of Lecture | Weeks |
|--------|--|----------------|----------|
| | UNIT – I | | |
| 1 | Characteristics of seed plants | 3 | I |
| 2 | Evolution of the seed habit | 3 | I |
| 3 | Seed plants with fruits (angiosperms) | 3 | II |
| 4 | Without fruits (gymnosperms) | 3 | II |
| 5 | Fossil seed plants | 3 | III |
| 6 | Living seed plants | 3 | III |
| | UNIT –II | | |
| 1 | General features of gymnosperms | 3 | IV |
| 2 | Classification of gymnosperms | 3 | IV |
| 3 | Evolution of gymnosperms | 3 | V |
| 4 | Diversity of gymnosperms | 3 | V |
| | UNIT –III | | |
| 1 | Fossil gymnosperms | 9 | VI, VII |
| 2 | Comparative account and silent features of Cycadofilicales | 3 | VII |
| 3 | Cordaitales | 2 | VIII |
| 4 | Bennettitales | 2 | VIII |
| | UNIT – IV | | |
| 1 | Morphology of vegetative and reproductive parts | 4 | VIII, IX |
| 2 | Anatomy of root, stem, and leaf | 1 | IX |
| 3 | Reproduction and lifecycle of Cycas | 2 | IX |
| 4 | Pinus | 4 | IX, X |
| 5 | Ephedra | 4 | X, XI |
| | UNIT –V | | |

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|---|---|---|------|
| 1 | Morphology of vegetative and reproductive parts | 2 | XI |
| 2 | Anatomy of root, stem, and leaf | 3 | XI |
| 3 | Reproduction and lifecycle of ginkgo | 2 | XII |
| 4 | Taxus | 3 | XII |
| 5 | Gnetum | 3 | XIII |


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VEENA MEMORIAL PG COLLEGE KARAULI, RAJASTHAN

Lecture plan

Class – B.Sc./ B.Sc. B.Ed.-Part II

Subject/Paper- Botany paper– II

(Diversity and systematics of seed plants- Angiosperms)

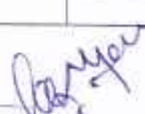
| S. No. | Topic | No. of Lecture | Weeks |
|--------|--|----------------|---------|
| | UNIT – I | | |
| 1 | Origin of angiosperms | 3 | I |
| 2 | Evolution of angiosperms | 3 | I |
| 3 | Some examples of primitive angiosperms | 4 | II |
| 4 | Some examples of primitive – are Ranales (8 families) | 8 | II, III |
| | UNIT –II | | |
| 1 | Angiosperm taxonomy – brief history | 3 | IV |
| 2 | Angiosperms taxonomy – aims and fundamental components | 3 | IV |
| 3 | Alpha taxonomy | 2 | V |
| 4 | Omega taxonomy | 2 | V |
| 5 | Keys | 2 | V |
| 6 | Taxonomic literature | 6 | VI |
| 7 | Botanical nomenclature | 6 | VII |
| 8 | Principles and rules | 2 | VIII |
| 9 | Taxonomic and rules | 2 | VIII |
| 10 | Taxonomic ranks | 2 | VIII |
| 11 | Type concept | 2 | IX |
| 12 | Principle of priority | 2 | IX |
| | UNIT –III | | |
| 1 | Classification of angiosperms | 2 | IX |
| 2 | Salient features of the systems proposed by Bentham and Hooker | 3 | X |
| 3 | Salient features of the system proposed by Engler and Prantl | 3 | X |
| 4 | Major contributions of cytology | 3 | XI |
| 5 | Major contributions to phytochemistry | 3 | XI |

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| 6 | Major contributions of Taximetrics to taxonomy | 3 | XII |
| UNIT –IV | | | |
| 1 | Diversity of flowering plants as illustrated by members of the families Ranunculaceae | 3 | XII |
| 2 | Diversity of flowering plants as illustrated by members of the families Brassicaceae | 2 | XIII |
| 3 | Diversity of flowering plants as illustrated by members of the families Papaveraceae | 2 | XIII |
| 4 | Diversity of flowering plants as illustrated by members of the families Capparidaceae | 2 | XIII |
| 5 | Diversity of flowering plants as illustrated by members of the families Malvaceae | 2 | XIV |
| 6 | Diversity of flowering plants as illustrated by members of the families Rutaceae | 2 | XIV |
| 7 | Diversity of flowering plants as illustrated by members of the families Fabaceae | 2 | XIV |
| 8 | Diversity of flowering plants as illustrated by members of the families Apiaceae | 2 | XV |
| UNIT – V | | | |
| Salient features of some families- | | | |
| 1 | Asteraceae | 2 | XV |
| 2 | Acanthaceae | 2 | XV |
| 3 | Apocynaceae | 2 | XVI |
| 4 | Asclepediaceae | 2 | XVI |
| 5 | Solanaceae | 4 | XVI, XVII |
| 6 | Lamiaceae | 2 | XVII |
| 7 | Amaranthaceae | 2 | XVII |
| 8 | Euphorbiaceae | 2 | XVIII |
| 9 | Lilliaceae | 2 | XVIII |
| 10 | Poaceae | 4 | XVIII, XIX |


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VEENA MEMORIAL PG COLLEGE KARAULI, RAJASTHAN

Lecture plan

Class– B.Sc./ B.Sc. B.Ed.-Part II

Subject/Paper- Botany paper– III

(Structure development and reproduction of flowering plants)

| S. No. | Topic | No. of Lecture | Weeks |
|--------|--|----------------|-----------|
| | UNIT – I | | |
| 1 | The basic body plan of flowering plant | 3 | I |
| 2 | Modular type of growth | 3 | I |
| 3 | Diversity in plant form in annuals, biennials, and perennials | 3 | II |
| 4 | Convergence and evolution of tree habit in gymnosperms | 3 | II |
| 5 | Monocotyledons and dicotyledons | 3 | III |
| 6 | Trees- largest and longest | 3 | III |
| 7 | Lived organisms | 3 | IV |
| | UNIT –II | | |
| 1 | The shoot system – the shoot apical meristem (SAM) and its histological organization | 6 | IV, V |
| 2 | Vascularization of the primary shoot in monocotyledons and dicotyledons | 6 | V, VI |
| 3 | Formation of internodes | 3 | VI |
| 4 | Branching pattern | 4 | VII |
| 5 | Cambium and its functions | 4 | VII, VIII |
| 6 | Formation of secondary xylem | 4 | VIII |
| 7 | A general account of wood structure about conduction of water and minerals | 6 | IX |
| 8 | Characteristics of growth rings | 4 | X |
| 9 | Sapwood and heartwood | 6 | X, XI |
| 10 | Role of the wood skeleton | 2 | XI |
| 11 | Secondary phloem | 4 | XII |
| 12 | Structure, function relationships- periderm | 8 | XII, XIII |
| | UNIT –III | | |

| | | | |
|-----------------|--|---|--------|
| 1 | Leaf – origin, development, and arrangement | 6 | XIV |
| 2 | Diversity in size and shape | 2 | XV |
| 3 | The internal structure of photosynthesis and water loss | 4 | XV |
| 4 | Adaptation to water stress | 3 | XVI |
| 5 | Senescence | 3 | XVI |
| 6 | Abscission | 2 | XVII |
| 7 | The root system – the root apical meristem (RAM) | 4 | XVII |
| 8 | Differentiation of primary and secondary tissues and their roles | 6 | XVIII |
| 9 | Structural modification for storage | 3 | XIX |
| 10 | Respiration | 6 | XIX |
| 11 | Reproduction and interaction with microbes | 3 | XX |
| UNIT –IV | | | |
| 1 | Flower – a modified shoot | 6 | XXI |
| 2 | Flower – structure | 6 | XXII |
| 3 | Development and variety of flower | 2 | XXIII |
| 4 | Functions of flower | 2 | XXIII |
| 5 | Structure of anther and pistil | 2 | XXIII |
| 6 | The male gametophyte | 6 | XXIV |
| 7 | The female gametophyte | 6 | XXV |
| 8 | Types of pollination attraction and rewards for pollinators | 2 | XXVI |
| 9 | Pollen-pistil interaction | 2 | XXVI |
| 10 | Self-incompatibility, double fertilization | 2 | XXVI |
| 11 | Formation of seed-endosperm | 6 | XXVII |
| 12 | Formation of embryo | 6 | XXVIII |
| 13 | Fruit development and maturation | 4 | XXIX |
| UNIT –V | | | |
| 1 | Significance of seed- | 2 | XXIX |
| 2 | Suspended animation | 2 | XXX |
| 3 | Ecological adaptation | 4 | XXX |
| 4 | Dispersal strategies | 2 | XXXI |
| 5 | Vegetative reproduction | 2 | XXXI |
| 6 | Vegetative propagation | 2 | XXXI |
| 7 | Grafting | 3 | XXXII |
| 8 | Economic aspects | 3 | XXXIII |

VEENA MEMORIAL PG COLLEGE KARALI, RAJASTHAN

Lecture plan

Class- B.Sc. B.Ed./B.Sc.-Part II

Subject/Paper- Botany Practical

| S. No. | Topic | No. of Lecture | Weeks |
|--------|--|----------------|-------|
| | Gymnosperms | | |
| | Cycas. | | |
| 1 | Habit, the armor of leaf bases on the stem (if the specimen is not available show a photograph), very young leaf (circinate venation) and old foliage leaves, scale leaf, bulbils, male cone (specimen); microsporophyll, megasporophyll, mature seed. | 3 | I |
| 2 | Study through permanent slides - normal root (T.S.), stem (T.S.) (if sections are not available show photographs), ovule (L.S.). | 3 | I |
| 3 | Study through hand sections or dissections - coralloid root (T.S.), rachis (T.S.), leaflet (T.S.), microsporophyll (T.S.), pollen grains (W.M.) | 6 | II |
| | Pinus | | |
| 1 | Habit, long and dwarf shoot showing cataphylls and scale leaves, T.S. wood showing growth rings, male cone, female cones, winged seeds. | 6 | III |
| 2 | Study through permanent slides - root (T.S.), female cone (L.S.), ovule (L.S.), embryo (W.M.) showing poly cotyledonous condition. | 3 | IV |
| 3 | Study through hand sections or dissections - young stem (T.S.), old stem (wood) (T.L.S. and R.L.S.), needle (T.S.), male cone (L.S.), male cone (T.S.), pollen grains (W.M.) | 3 | IV |
| | Ephedra | | |
| 1 | Habit and structure of whole male and female cones. | 2 | V |
| 2 | Permanent slides - female cone (L.S.). | 2 | V |
| 3 | Hand sections/dissections - node (T.S.), internode (T.S.), male cone (T.S. and L.S.), pollen grains. | 2 | V |
| | Ginkgo, Taxus & Gnetum - Study of morphology and anatomy of vegetative and reproductive parts. | 6 | VI |
| | Angiosperms | | |

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| (A) The following species are suitable for study. This list is only indicative. Teachers may select plants available in their locality. | | | |
| 1. Ranunculaceae: Ranunculus, Delphinium | 1 | VII | |
| 2. Brassicaceae: Brassica, Iberis | 1 | VII | |
| Papaveraceae: Argemone / Papaver. | 1 | VII | |
| 3. Malvaceae: Hibiscus, Abutilon | 1 | VII | |
| 4. Rutaceae: Murraya, Citrus | 2 | VII | |
| 5. Fabaceae: Faboideae: Lathyrus, Cajanus, Melilotus, Trigonella Caesalpinioideae: Cassia, Caesalpinia Mimosoideae: Acacia, Prosopis, Mimosa | 6 | VIII | |
| 6. Apiaceae: Coriandrum, Foeniculum, Anethum | 2 | IX | |
| | | | |
| 7. Asteraceae: Helianthus, Ageratum, Sonchus, Tridax | 1 | IX | |
| 8. Acanthaceae: Adhatoda, Peristrophe | 1 | IX | |
| 9. Apocynaceae: Vinca, Thevetia, Nerium | 1 | IX | |
| 10. Asclepiadaceae: Calotropis | 1 | IX | |
| 11. Solanaceae: Solanum, Withania, Datura | 3 | X | |
| 12. Euphorbiaceae: Euphorbia, Phyllanthus, Ricinus | 2 | X | |
| 13. Lamiaceae: Ocimum, Salvia | 1 | X | |
| 14. Amaranthaceae: Amaranthus, Achyranthus | 1 | XI | |
| 15. Liliaceae: Asphodelus, Asparagus | 1 | XI | |
| 16. Poaceae: Avena, Triticum, Hordeum. | 2 | XI | |
| (B) | | | |
| 1. Study any commonly occurring dicotyledonous plant (for example Solanum nigrum or Kalanchoe) to understand the body plan and modular type of growth. | 2 | XI | |
| 2. Life forms exhibited by flowering plants (by a visit to a forest or a garden). | 3 | XII | |
| 3. L.S. shoot tip to study the cytohistological zonation and origin of leaf primordia. | - | | |
| 4. Monopodial and sympodial types of branching in stems (especially rhizomes) | 3 | XII | |
| 5. Anatomy of primary and secondary growth in monocots and dicots using hand sections (or prepared slides). Structure of secondary phloem and xylem. Growth rings in the wood. Microscopic study of wood in T.S., T.L.S. and R.L.S. | 6 | XIII | |
| 6. Internal structure of the leaf. Structure and development of | 2 | XIV | |

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| | stomata (using epidermal peels of the leaf) | | |
| | 7. Anatomy of the root. Primary and secondary structure. | 2 | XIV |
| | 8. Examination of a wide range of flowers available in the locality and methods of their pollination. | 2 | XIV |
| | 9. Structure of anther, microsporogenesis (using slides), and pollen grains (using whole mounts). Pollen viability using in vitro pollen germination. | 4 | XV |
| | 10. Structure of ovule and embryo sac development (using serial sections) | - | |
| | 11. Nuclear and cellular endosperm. Embryo development in monocots and dicots (using slides/dissections) | 2 | XV |
| | 12. Simple experiments to show vegetative, propagation, (leaf cuttings in Bryophyllum, Sansevieria, Begonia; stem cuttings in rose, salix, money plant, sugarcane, and Bougainvillea). | 6 | XVI |
| | 13. Germination of non-dormant and dormant seeds. | 3 | XVII |
| | 14. Viability of seeds. | 3 | XVII |


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Lecture plan

Class – B.Sc./ B.Sc. B.Ed.-Part III

**Subject/Paper- Botany paper – I
(Plant physiology and biochemistry)**

| S. No. | Topic | No. of Lecture | Weeks |
|--------|---|----------------|-------|
| | UNIT – I | | |
| 1 | Plant water relations- | 3 | I |
| 2 | Importance of water to plant life | 1 | I |
| 3 | Physical properties of water | 2 | I |
| 4 | Diffusion | 1 | II |
| 5 | Osmosis | 3 | II |
| 6 | Absorption | 2 | II |
| 7 | Transport of water and transpiration | 2 | III |
| 8 | Mineral nutrition – essential macro and micro elements and their role | 4 | III |
| 9 | Mineral uptake | 2 | IV |
| 10 | Deficiency and toxicity symptoms | 4 | IV |
| 11 | Transport of organic substances | 2 | V |
| 12 | Mechanism of phloem transport | 4 | V |
| 13 | Source sink relationship | 3 | VI |
| 14 | Factors affecting translocation | 1 | VI |
| | UNIT –II | | |
| 1 | Photosynthesis – significance, historical aspects | 2 | VI |
| 2 | Photosynthetic pigments | 6 | VII |
| 3 | Action spectra and enhancement effects | 4 | VIII |
| 4 | Concept of two photosystem | 2 | VIII |
| 5 | Z- scheme | 3 | IX |
| 6 | Photophosphorylation | 3 | IX |
| 7 | C-3 and C-4 pathway | 6 | X |

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| 8 | CAM plants | 3 | XI |
| 9 | Photorespiration | 3 | XI |
| | UNIT -III | | |
| 1 | Respiration – ATP is the biological energy currency | 3 | XII |
| 2 | Aerobic and anaerobic respiration | 3 | XII |
| 3 | Glycolysis | 3 | XIII |
| 4 | Kreb's cycle | 3 | XII |
| 5 | Electron transport system mechanism | 4 | XIV |
| 6 | Chemi-osmotic theory | 2 | XIV |
| 7 | Redox potential | 2 | XV |
| 8 | Oxidative phosphorylation | 2 | XV |
| 9 | Pentose phosphate pathway | 2 | XV |
| 10 | Basics of enzymology | 1 | XVI |
| 11 | Discovery and nomenclature | 2 | XVI |
| 12 | Characteristics of enzymes | 2 | XVI |
| 13 | Concept of enzymes | 1 | XVI |
| 14 | Apo enzyme and co-factors | 4 | XVII |
| 15 | Regulation of enzyme activity | 4 | XVII, XVIII |
| 16 | Mechanism of action | 4 | XVIII |
| | UNIT-IV | | |
| 1 | Nitrogen and lipid metabolism | 6 | XIX |
| 2 | Biology of nitrogen fixation | 4 | XX |
| 3 | Importance of nitrate reductase and its regulation | 2 | XX |
| 4 | Ammonium assimilation | 3 | XXI |
| 5 | Structure and function of lipid | 3 | XXI |
| 6 | Fatty acid biosynthesis | 6 | XXII |
| 7 | Alpha and beta-oxidation | 6 | XXIII |
| 8 | Saturated and unsaturated fatty acids | 6 | XXIV |
| 9 | Storage and mobilization of fatty acids | 3 | XXV |
| | UNIT -V | | |
| 1 | Growth and development - Coordinator (IQAC) | 3 | XXV |
| 2 | Definitions, phases of growth, and development Veena Memorial PG College | 2 | XXVI |
| 3 | Kinetics of growth PRINCIPAL Veena Memorial PG College | 2 | XXVI |
| 4 | Seed dormancy Karauli (Raj.) | 2 | XXVI |

VEENA MEMORIAL PG COLLEGE KARAULI, RAJASTHAN

Lecture plan

Class – B.Sc./ B.Sc. B.Ed.-Part III

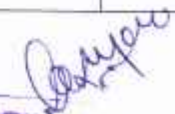
Subject/Paper- Botany paper – II

(Ecology and phytogeography)

| S. No. | Topic | No. of Lecture | Weeks |
|--------|--|----------------|-------|
| | UNIT – I | | |
| 1 | Plant and environment - | 1 | I |
| 2 | Atmosphere (gaseous composition) | 5 | I |
| 3 | Water (properties of the water cycle) | 2 | II |
| 4 | Light (global radiation photosynthetically active radiation) | 2 | II |
| 5 | Temperature | 2 | II |
| 6 | Soil (Development, Soil profiles, Physicochemical properties) | 3 | III |
| 7 | Biota | 3 | III |
| | UNIT -II | | |
| 1 | Morphological, anatomical, and physiological responses of plants to water-hydrophytes | 3 | IV |
| 2 | Morphological, anatomical, and physiological responses of plants to water – Xerophytes | 3 | IV |
| 3 | Morphological, anatomical, and physiological responses of plants to water-halophytes | 3 | V |
| 4 | Temperature | 3 | V |
| 5 | Light | 2 | VI |
| 6 | Heliophytes and Sciophytes | 2 | VI |
| 7 | Salinity | 2 | VI |
| | UNIT –III | | |
| 1 | Community ecology - | 3 | VII |
| 2 | Community characteristics, (analytical and synthetic) | 3 | VII |
| 3 | Ecological succession | 6 | VIII |
| 4 | (Hydroasere, lithosere, Psammosere) | 6 | IX |
| 5 | Concept of climax | 3 | X |

| | | | |
|----|---|---|-------|
| | UNIT –IV | | |
| 1 | Ecosystem – structure | 3 | X |
| 2 | Abiotic components | 2 | XI |
| 3 | Biotic components | 2 | XI |
| 4 | Food chain | 2 | XI |
| 5 | Food web | 2 | XII |
| 6 | Ecological pyramids | 4 | XII |
| 7 | Energy flow | 4 | XIII |
| 8 | Biogeochemical cycles – carbon cycle | 2 | XIII |
| 9 | Water cycle | 2 | XIV |
| 10 | Nitrogen cycle | 2 | XIV |
| 11 | Phosphorus cycle | 2 | XIV |
| | UNIT –V | | |
| 1 | Bio geographical regions of India | 6 | XV |
| 2 | Vegetation types in India | 6 | XVI |
| 3 | Forest and grassland with particular reference to Rajasthan | 6 | XVII |
| 4 | Environmental pollutions- | - | |
| 5 | Air pollution | 2 | XVIII |
| 6 | Water pollution | 2 | XVIII |
| 7 | Soil pollution | 2 | XVIII |
| 8 | WWF | 1 | XIX |
| 9 | Chipko movement | 1 | XIX |
| 10 | Greenhouse effect | 2 | XIX |
| 11 | Introduction to climate change | 2 | XIX |
| 12 | Carbon sequestration | 3 | XX |
| 13 | Energy and environment | 3 | XX |
| 14 | Clean development mechanism (CDM) | 2 | XXI |


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Lecture plan

Class– B.Sc./ B.Sc. B.Ed.-Part III

Subject/Paper- Botany paper– III
(Biotechnology and utilization of plants)

| S. No. | Topic | No. of Lecture | Weeks |
|--------|---|----------------|---------|
| | UNIT – I | | |
| 1 | Genetic engineering | 2 | I |
| 2 | Tools and techniques of recombinant DNA technology | 4 | I |
| 3 | DNA cloning vectors | 6 | II |
| 4 | Genomic and cDNA library | 6 | III |
| 5 | Transposable element | 6 | IV |
| 6 | Technics of gene mapping | 3 | V |
| 7 | Chromosome walking | 3 | V |
| 8 | Genetic transformation | 4 | VI |
| 9 | Production of bioactive molecules | 2 | VI |
| 10 | The basic concept of metabolic engineering | 4 | VII |
| 11 | Improvement of biosynthesis | 2 | VII |
| 12 | Accumulation of bioactive | 2 | VIII |
| 13 | Immobilization | 2 | VIII |
| 14 | Elicitation | 2 | VIII |
| 15 | Transgenic plants | 6 | IX |
| | UNIT –II | | |
| 1 | Biotechnology – functional definition | 2 | X |
| 2 | Basic aspects of plant tissue culture | 4 | X |
| 3 | Cellular Totipotancy | 2 | XI |
| 4 | Differentiation and morphogenesis, the biology of agrobacterium | 10 | XI, XII |
| 5 | Vectors for gene delivery | 6 | XIII |
| 6 | Marker genes | | XIV |

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|----|---|----|------------|
| 7 | Salient achievements in crop biotechnology | 8 | XIV, XV |
| | UNIT -III | | |
| 1 | Food plants - Rice, Wheat, Maize, Bajra, Potato, Sugarcane(History, origin, and distribution), morphology, climate, soil, cultivation, preparation, improved varieties, uses, and crop protection | 12 | XVI, XVII |
| 2 | Vegetable oils – ground nut, mustard, coconut | 8 | XVIII, XIX |
| 3 | Volatile oils | 2 | XIX |
| 4 | Fatty acid | 2 | XIX |
| 5 | Classification of vegetable oils (history, origin, distribution)Extraction of vegetable oils, morphology of plants, cultivation, varieties | 6 | XX |
| | UNIT -IV | | |
| 1 | Fibers – cotton and jute | 6 | XXI |
| 2 | Classification of fibers (history and origin, important fibers and their source distribution, types, climate, soil, cultivation processing, characters, improved varieties) | 6 | XXII |
| 3 | A general account of sources of firewood, timber, and bamboo, structure and characteristics of wood | 6 | XXII |
| 4 | An important source of timber wood | 3 | XXI |
| 5 | Characters, plantation of firewood | 3 | XXI |
| 6 | Botanical characteristics of bamboo, climate, and soil, use, diseases, and insect pests | 4 | XXII |
| 7 | Rubber and hydrocarbon-yielding plants – calotropis, euphorbia | 2 | XXII |
| 8 | History of rubber | 1 | XXIII |
| 9 | Properties of rubber | 2 | XXIII |
| 10 | Types of rubber | 1 | XXIII |
| 11 | Cultivation of plant, extraction, and processing, uses | 2 | XXIII |
| | UNIT -V | | |
| 1 | Spices – general account | 1 | XXIV |
| 2 | Clove | 1 | XXIV |
| 3 | Black pepper | 1 | XXIV |
| 4 | Dalchini | 1 | XXIV |
| 5 | Cardamom | 1 | XXIV |
| 6 | Medicinal plants – general account | | XXIV |
| 7 | Withania | | XXV |

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|----|----------------------------|---|------|
| 8 | Rauwolfia | 1 | XXV |
| 9 | Cinchona | 1 | XXV |
| 10 | Azadiracta | 1 | XXV |
| 11 | Aloe | 1 | XXV |
| 12 | Ephedra | 1 | XXV |
| 13 | Taxus | 1 | XXVI |
| 14 | Chlorophytum | 1 | XXVI |
| 15 | Beverages – tea and coffee | 2 | XXVI |


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VEENA MEMORIAL PG COLLEGE KARALI, RAJASTHAN

Lecture plan

Class- B.Sc./ B.Sc. B.Ed.-Part III

Subject/Paper- Botany Practical

| S. No. | Topic | No. of Lecture | Weeks |
|--------|---|----------------|-------|
| | Physiology: | | |
| | 1. To study the permeability of plasma membranes using different concentrations of organic solvents. | 2 | I |
| | 2. To study the effect of temperature on the permeability of the plasma membrane. | 2 | I |
| | 3. To study the effect of toxic substances on the permeability of the plasma membrane. | 2 | I |
| | 4. To demonstrate the phenomenon of osmosis by the use of a potato osmometer. | 2 | II |
| | 5. To study the phenomenon of plasmolysis and deplasmolysis using Tradescantia / Rhoen discolor leaves and different concentrations of sugar. | 4 | II |
| | 6. To study the protoplasmic streaming (In Hydrilla / Vallisneria) | 2 | III |
| | 7. To demonstrate the rate of transpiration by use of a photometer (Ganong's/Farmers) | 2 | III |
| | 8. To study the relative rate of transpiration from the leaf surfaces of the different plants using cobalt chloride paper. | 2 | III |
| | 9. To demonstrate that oxygen is evolved during the photosynthesis by inverted funnel method. | 2 | IV |
| | 10. To demonstrate that light is necessary for photosynthesis. | 2 | IV |
| | 11. To demonstrate the effect of different wavelengths of light during photosynthesis. | 2 | IV |
| | 12. To demonstrate that carbon dioxide, light, water, and chlorophyll are essential for photosynthesis by Moll's experiment. | 2 | V |
| | 13. To compare the rate of photosynthesis under different conditions by using Wilmott's bubbler. | - | - |
| | 14. comparison of the rate of respiration (R.Q.) of various plant parts or substrates with the help of Ganong's respirometer. | 2 | V |
| | 15. Separation of chlorophyll pigments by the paper chromatography | 2 | V |
| | Biochemistry: | | |
| | 1. To study the activity of catalase, peroxidase dehydrogenase enzymes in plant tissues. | - | - |
| | 2. Phytochemical test for starch, sugars, protein, fats, tannins, Anthocyanin. | 6 | VI |
| | Biotechnology : | | |
| | 1. Introduction of the instruments/techniques of laminar airflow/ sterile bench and autoclave | 2 | VII |
| | 2. Preparation of M.S and P.D.A. culture media | 3 | VII |
| | 3. Demonstration of inoculation techniques, aseptic transfer of explants, and microbial transfer technique | 1 | VII |
| | 4. Demonstration of the technique of micropropagation by using different explants e.g., axillary buds, shoot meristem | 3 | VIII |
| | Ecology: | | |
| | 1. To determine the minimum size of quadrat for phytosociological | 1 | VIII |

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| 2. To determine the frequency of the herbaceous species by quadrat method. | 2 | VIII |
| 3. To determine the density and abundance of the herbaceous flora by the quadrat method. | 2 | IX |
| 4. Soil analysis/Field test (a) Soil Texture (b) Soil moisture | 2 | IX |
| 5. To determine the water-holding capacity of the soil of grassland or woodland | 2 | IX |
| 6. To determine the pH of given soil samples. | 3 | X |
| 7. To demonstrate the presence of carbonate and chloride in different water samples/soil samples. | 3 | X |
| Ecological adaptations: | | |
| 8. Morphological & Anatomical adaptations in some hydrophytes & xerophytes: (Specimens/slides/section cutting) Hydrilla, Typha, Eichhornia, opuntia, Euphorbia, Capparis, Casurin, Nerium, Calotropis | 6 | XI |
| 9. Ecological instruments and their working | 1 | XII |
| Economic Botany: | | |
| 1. Microchemical tests for – Lignin, Cellulose, Cutin, Suberin, Starch, Sugar, Protein, and Oil in plant tissues. | 5 | XII |
| 2. Microscopic examination of starch grains of wheat, maize Rice, and Potato. | 2 | XIII |
| Utilization of plants | | |
| (a) Food plants – Wheat, Maize, Rice, Potato, Sugarcane | 2 | XIII |
| (b) Fibres – Cotton, Jute | 2 | XIII |
| (c) Vegetable oils – Ground nut, mustard, and coconut | 2 | XIV |
| (d) A general account of the firewood, timber-yielding plants, and Bamboo | 2 | XIV |
| (e) Spices and condiments – Clove, Black pepper, Cinnamon, Cardamom | 2 | XIV |
| (f) Medicinal Plants – Rauwolfia, Withania, Cinchona, Papaver, Ocimum, Datura, Ephedra, Taxus, Aloe, Azadirachta | 6 | XV |
| (g) Beverages – Tea, Coffee | 1 | XVI |
| (h) Rubber – Ficus elastica, Hevea | 1 | XVI |


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LECTUR PLAN - ZOOLOGY

CLASS - B.Sc. and B.Sc. B. Ed. 1ST YEAR

PAPER- I

Animal Diversity part -I (Protozoa to Annelida)

| S. No. | Topic | No. of lecture | Week |
|--------|---|----------------|----------|
| | UNIT-I | | |
| 1 | Description of the principal of taxonomy | | |
| 2 | Concept of five kingdom | 3 | I |
| 3 | Level of structural organization | 2 | I |
| 4 | Basis of classification of animals | 2 | I,II |
| | UNIT-II | 5 | II |
| 5 | Classification of invertebrates animals | | |
| 6 | Classification of phylum protozoa on the basis of locomotory organ. | 3 | III |
| 7 | General characteristics and classification of porifera | 3 | III |
| | UNIT-III | 2 | IV |
| 8 | General characteristics and classification of coelenterate | | |
| 9 | Coral reef | 2 | IV |
| 10 | General characteristics and classification of platy helminthes | 3 | IV-V |
| 11 | General characteristics and classification of nematodes | 3 | V |
| 12 | General characteristics and classification of Annelida | 3 | V,VI |
| 13 | Internal and external structure of Sycon | 2 | VI |
| 14 | Describe the different element of Sycon | 3 | VI |
| 15 | Types and impotence of canal system | 5 | VII |
| 16 | Principal of coral reef formation | 3 | VII,VIII |
| 17 | Ctenophore and its proximity | 3 | VIII |
| | UNIT-IV | 2 | VIII,IX |
| 18 | Study of the structure of fasciola | | |
| 19 | Life cycle of Fasciola hepatica | 3 | IX |
| 20 | Describe the structure of flame cells | 4 | IX,X |
| 21 | Describe the different larval stage of Fasciola | 3 | X |
| | UNIT-V | 5 | X,XI |
| 22 | Metamorphism and ceolom in annelid | | |
| 23 | Illustrate description trochophore larva | 3 | XI,XII |
| 24 | Internal and external structure of leach | 2 | XII |
| 25 | Describe the defferent system in leach | 3 | XII |
| | | 6 | XIII |

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LECTUR PLAN – ZOOLOGY

B.Sc. and B.Sc. B. Ed. Pt -I

PAPER- II

Genetics and Biotechnology

| S.No. | Topic | No. of lecture | Week |
|-------|--|----------------|-----------------|
| | Unit-I | | |
| 1 | Genetics definition and medals law | 1 | I |
| 2 | Law of dominance and incomplete dominance | 2 | I |
| 3 | Study of Mendelian in the present situation | 3 | I |
| 4 | Genetic variation | 2 | II |
| | UNIT-II | | |
| 7 | Genetic disorders | | |
| 8 | Genetic mutation | 2 | III |
| 9 | Crossing over and linkage | 3 | III, IV |
| | UNIT-III | | |
| 10 | Sex determination in human | 2 | IV |
| 11 | Colorblindness and hemophilia | 2 | IV |
| 12 | Study of genetic variance | 3 | V |
| 13 | Effects of blood group on genetics | 4 | V,VI |
| 14 | Study of molecular genetics | 3 | VI |
| | UNIT-IV | | |
| 15 | Describe the bacterial genetics | 4 | VI,VII |
| 16 | Lyrics and glycogenic cycle | 3 | VII |
| 17 | Gene cloning | 2 | VII,VIII |
| 18 | Methods of biotechnology | 3 | VIII |
| | UNIT-V | | |
| 19 | Antibodies and antibiotics | 2 | VIII |
| 20 | Significanse of microorganism in industrial wastes | 3 | IX |
| 21 | Decomposition of biotic | 3 | IX |
| 22 | Study of oily pollutants | 3 | X |
| 23 | Use of microorganism in medicine | 3 | X |



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LECTUR PLAN – ZOOLOGY

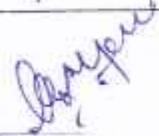
B.Sc. and B.Sc. B. Ed. Pt -I

PAPER- III

Cell Biology, Biochemistry and Microscopy

| S.No. | Topic | No. of lecture | WEEK |
|-----------------|---|----------------|-------------|
| UNIT-I | | | |
| 1 | Cell invention theory | 3 | I |
| 2 | Golden age of cytology and types of cells | 2 | I |
| 3 | Prokaryotic and eukaryotic cells | 3 | I,II |
| 4 | Describe the animal cells | 3 | II |
| 5 | History and physical property of protoplasm | 2 | II,III |
| 6 | Colloidal, physical and chemical properties of protoplasm | 3 | III |
| 7 | Illustrate description of cell organelles | 10 | III,IV,V,VI |
| UNIT-II | | | |
| 8 | Types of DNA and RNA | 2 | VI |
| 9 | Chemical study of nucleic acid | 2 | VI |
| 10 | Study of molecular model | 2 | VII |
| 11 | Importance of nucleic acid in genetics | 3 | VII |
| 12 | Mitosis and meiosis cell division | 4 | VI |
| 13 | Importance of cell cycle and centiole | 3 | VIII |
| 14 | Significance of crossing over control | 3 | VIII |
| UNIT-III | | | |
| 15 | Synthesis of nucleic acid | 2 | IX |
| 16 | Study of DNA and RNA structure | 3 | IX |
| 17 | Bio-synthesis of deoxyribosome | 2 | IX,X |
| 18 | Mechanism and regulation of protein synthesis | 4 | X |
| 19 | Role of RNA in protein synthesis | 3 | X,XI |
| UNIT-IV | | | |
| 20 | Study of cell chemistry | 3 | XI |
| 21 | Importance and principal of fermentation | 4 | XI,XII |
| 22 | Study of cell metabolism | 3 | XII |
| 23 | Study of metabolic activities | 5 | XIII |
| UNIT-V | | | |
| 24 | Structure and function of microscope | 3 | XIII |
| 25 | Use and principal of compound and electron microscope | 4 | XIV |


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LECTUR PLAN – ZOOLOGY
B.Sc. and B.Sc. B. Ed. Pt-II

PAPER- I **Animal Diversity Part –II (Arthropoda to Protochordata)**


| S.No. | Topic | No. of lecture | WEEK |
|-------|---|----------------|---------|
| | UNIT-I | | |
| | Arthropod | | |
| 1 | Classification and general character of phylum arthropods | 3 | I |
| 2 | Habitat, habits and appendix of palaemon | 2 | I |
| 3 | Digestive system and respiratory system of palaemon | 2 | I,II |
| 4 | Excretory system and reproductive system of palaemon | 4 | II |
| 5 | Structure and function of nervous system of palaemon | 3 | II,III |
| 6 | Structure of crustacean larva | 4 | III |
| 7 | Apiculture, Lac culture | 1 | IV |
| 8 | Sericulture | 2 | IV |
| | UNIT-II | | |
| | Mollusca | | |
| 9 | Classification and general character of phylum mollusca | 2 | IV |
| 10 | Nature and habitat of pila | 2 | IV,V |
| 11 | Structure of digestive system of pila | 1 | V |
| 12 | Excretory system and reproductive system of pila | 3 | V |
| 13 | Circulatory system and sensory organ of pila | 2 | V,VI |
| 14 | Rotation in gastropoda | 2 | VI |
| 15 | Pearl culture | 1 | VI |
| | UNIT-III | | |
| | Echinodermata | | |
| 16 | Classification and structure of phylum echinodermata | 2 | VI |
| 17 | External and internal structure of esteriasus | 3 | VII |
| 18 | Illustrate description of digestive system | 2 | VII |
| 19 | Illustrate description of respiratory system | 2 | VII |
| 20 | Illustrate description of circulatory system | 1 | VIII |
| 21 | Illustrate description of excretory system | 3 | VIII |
| 22 | Describe the male and female reproductive system | 1 | VIII |
| 23 | Illustrate description of nervous system | 2 | VIII,IX |
| 24 | Circulatory system and sensory organ of star fish | 2 | IX |
| 25 | Illustrate description of larva | 2 | IX |
| 26 | Regeneration of star fish | 1 | IX |
| | UNIT-IV | | |
| 27 | Vertebrate and invertebrate comparison | 2 | X |
| 28 | General character and classification | 2 | X |
| 29 | Habitat and nature of balanoglossus | 2 | X |
| 30 | External character and coelom | 3 | XI |
| 31 | Digestive system of balanoglossus | 4 | XI,XII |
| 32 | Illustrate description of skeletal system | 5 | XII |

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|------------------------|---|---|--------|
| 33 | Illustrate description of respiratory system | 2 | XIII |
| 34 | Study of circulatory system | 2 | XIII |
| 35 | Study of excretory system | 2 | XIII |
| 36 | Study of male and female reproductive system | 2 | XIV |
| 37 | Study of nervous system | 2 | XIV |
| 38 | Sensory organ of balanoglossus | 3 | XIV,XV |
| 39 | Illustrate description of ternaria larva | 1 | XV |
| 40 | Relation between echinodermata and hemichordate | 2 | XV |
| UNIT-V | | | |
| Eurochordata | | | |
| 41 | General character and classification | 1 | XV |
| 42 | Study of herdmania | 2 | XV,XVI |
| 43 | Illustrate description of several system of herdmania | 2 | XVI |
| 44 | Sensory organ of herdmania | 2 | XVI |
| Cephalochordata | | | |
| 45 | Classification of amphioxus | 2 | XVI |
| 46 | Relation between eurochordata and cephalochordata | 2 | XVII |


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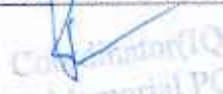
LECTUR PLAN – ZOOLOGY

B.Sc. and B.Sc. B. Ed. Pt-II

Endocrinology and Ethology

PAPER- II

| S.No. | Topic | No. of lecture | WEEK |
|-----------------|---|----------------|---------------|
| UNIT-I | | | |
| 1 | Description of the external and internal glands | 7 | I,II |
| 2 | Chemical nature of hormones | 3 | II |
| 3 | Structure of major endocrine glands | 8 | II,III |
| 4 | Study of sub endocrine glands | 7 | IV,V |
| 5 | Description of endocrine glands in insect | 5 | V |
| UNIT-II | | | |
| 6 | Regulation of hormones | 3 | VI |
| 7 | Description of external and internal messenger | 5 | VI,VII |
| 8 | Study of secondary messenger | 3 | VII |
| 9 | Cyclic AMPO,PIP2,IP2 | 4 | VII,VIII |
| 10 | Egg protein, protein kinase | 3 | VIII |
| 11 | Cell signaling and signal promotion | 4 | IX |
| UNIT-III | | | |
| 12 | Molecular mechanism of insulin | 3 | IX,X |
| 13 | Function and structure of testis and ovary | 7 | X,XI |
| 14 | Effect of hormones in embryonic stage | 3 | XI |
| 15 | Study of raju cycle and mid cycle | 2 | XI |
| 16 | Hormone control on pregnancy | 3 | XII |
| 17 | Hormone effects on child birth and lactation | 5 | XII,XIII |
| 18 | Different type of contraceptive | 3 | XIII |
| UNIT-IV | | | |
| 19 | Study of animals behavior | 5 | XIII,XIV |
| 20 | MRI and CT scan | 3 | XIV,XV |
| 21 | Physiological method of behavior | 4 | XV |
| 22 | Neural method of behavior | 7 | XV,XVI |
| 23 | Study of biological clock | 3 | XVII |
| 24 | Adhigam | 3 | XVII |
| 25 | Method of printing, self motivated business | 3 | XVIII |
| UNIT-V | | | |
| 26 | Struggle of food in honey bees, monkeys | 4 | XVIII,XI V |
| 27 | Study of social behavior of oraganism | 2 | XIV |
| 28 | Communication battle and alarm call | 3 | XIV |
| 29 | Sexual behavior in animals | 7 | XVI,XVI I |
| 30 | Hormone effects on sexual methods | 3 | XIX |
| 31 | Migration in birds and fishes | 3 | XIX |
| 32 | Orientation in Texix and Kinesis | 4 | XX |


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LECTUR PLAN – ZOOLOGY

B.Sc. and B.Sc. B. Ed. Pt-II

Paper –III

Animal Ecology and Biostatistics

| S.No. | Topic | No. of lecture | WEEK |
|-----------------|--|----------------|----------|
| UNIT-I | | | |
| 1 | Ecology meaning, definition and history | 3 | I |
| 2 | Concept and field of work of ecology | 4 | I,II |
| 3 | Basic component of ecosystem | 2 | II |
| 4 | Biotic and abiotic factor of ecology | 2 | II |
| 5 | Interracial and interracial relation | 7 | II,III |
| 6 | Shelfords theory of tolerance | 3 | IV |
| 7 | Libing concept | 2 | IV |
| UNIT-II | | | |
| 8 | Study of community ecology | 3 | IV |
| 9 | Biocommunities traits, safety and reproduction | 3 | IV,V |
| 10 | Ecosystem stability | 2 | V |
| 11 | Productivity types, measurements | 2 | V |
| 12 | Energy flow and food chain in ecology | 3 | VI |
| 13 | Ecological pyramids | 4 | VI,VII |
| 14 | Ecological niche | 3 | VII |
| UNIT-III | | | |
| 15 | Aquatic ecology | 4 | VII,VIII |
| 16 | Marine life and aquatic habitat | 3 | VIII |
| 17 | Local habitat, forest, desert | 4 | IX |
| 18 | Growth rate, migration in natural community | 5 | IX,X |
| 19 | The role of human in the design of natural communities | 4 | X,XI |
| UNIT-IV | | | |
| 20 | Natural resources | 2 | XI |
| 21 | Renewable and non-renewable resources | 3 | XI |
| 22 | Marine agriculture and aquatic agriculture | 3 | XII |
| 23 | Management of natural resources | 3 | XII |
| 24 | Environmental pollution | 5 | XIII |
| UNIT-V | | | |
| 25 | Impact of urbanization | 3 | XIII,XIV |
| 26 | Features of urbanization | 2 | XIV |
| 27 | Concept of biological minimization | 3 | XIV,XV |


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VEENA MEMORIAL P.G. COLLEGE KARAUJI

LECTUR PLAN – ZOOLOGY

B.Sc. and B.Sc. B. Ed. Pt-III

Paper –I

Animal Diversity part-III (Vertebrates and Evolution)

| S.No. | Topic | No. of lecture | WEEK |
|-----------------|---|----------------|----------|
| UNIT-I | | | |
| 1 | It origin and ancestry and variation of texas | 3 | I |
| 2 | General characteristics vand classification of cyclostometa | 1 | I |
| 3 | Petromyzon-morphology and amocete larva | 1 | I |
| 4 | General character and classification of Pisces | 4 | I,II |
| 5 | General morphology of scoliodon and lobio | 2 | II |
| 6 | Types of electric organ, tail fin and scales | 3 | II,III |
| 7 | Types of electric organ, tail fin and scales | 2 | III |
| UNIT-II | | | |
| 8 | General characteristics and classification of amphibian | 1 | III |
| 9 | Pisces culture | 2 | III,IV |
| 10 | General characteristics vand classification of raptelia | 2 | IV |
| 11 | Illustrate description of scoliodon | 2 | IV |
| UNIT-III | | | |
| 12 | General characteristics and classification of avis | 3 | IV,V |
| 13 | Flight adaption in birds | 2 | V |
| 14 | Study of migration in birds | 3 | V,VI |
| 15 | Illustrate description of achcopteryx | 1 | VI |
| 16 | Structure and evaluation of urinary system | 2 | VI |
| 17 | Brain and skeleton system | 4 | VI,VII |
| 18 | Illustrate description of of eye and ear | 3 | VII |
| 19 | Study of parental care in vertebrates | 2 | VII,VIII |
| UNIT-IV | | | |
| 20 | Illustrate description of alimentary canal | 1 | VIII |
| 21 | Illustrate description of of respiratory system | 3 | VIII |
| 22 | Study of circulatorysystem | 4 | VIII,IX |
| 23 | Various evidence in favor of evaluation | 3 | IX |
| 24 | Miller eure practical | 2 | IX,X |
| 25 | Founder effects, bottle neck effects | 2 | X |
| UNIT-V | | | |
| 26 | Study of species evaluation | 6 | X |


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VEENA MEMORIAL P.G. COLLEGE KARAULI**LECTUR PLAN – ZOOLOGY**

B.Sc. and B.Sc. B. Ed. Pt-III

Paper-II**Mammalian Physiology and Immunology**

| S.No. | Topic | No. of lecture | WEEK |
|-----------------|---|----------------|---------|
| UNIT-I | | | |
| 1 | Physiology Of balance diet digestion | 5 | I |
| 2 | Malnutrition, PEM | 2 | I,II |
| 3 | Physiology and regulation of respiration | 4 | II |
| 4 | Structure of respiratory organ | 3 | II,III |
| 5 | Regulation on respiration | 2 | III |
| UNIT-II | | | |
| 6 | Physiology of circulation | 3 | III,IV |
| 7 | Mechanism of circulation | 2 | IV |
| UNIT-III | | | |
| 8 | Heart disorder ,ECG of circulation | 3 | IV |
| 9 | Excretory system and types of excretory system | 4 | V |
| 10 | Study of auxiliary excretory organs | 2 | V |
| 11 | Structure and function of sweat gland | 3 | VI |
| 12 | Structure and function of kidney | 2 | VI |
| 13 | Structure and function of nephron | 4 | VI,VII |
| 14 | Mechanism of urine formation | 3 | VII |
| 15 | Dialysis study | 2 | VIII |
| UNIT-IV | | | |
| 16 | Structure of rekhit and arekhit mussels | 3 | VIII |
| 17 | Concept of mussels contraction | 3 | VIII,IX |
| 18 | Tetanus and mussels | 2 | IX |
| 19 | Illustrate description of neurons | 2 | IX |
| 20 | Structure of nerve fiber | 3 | X |
| UNIT-V | | | |
| 21 | Reflect action | 2 | X |
| 22 | Touch, pain, heat and sensory organ | 5 | X,XI |
| 23 | Structure of human eye | 3 | XI,XII |
| 24 | Image formation and precipitation visualization | 3 | XII |


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LECTUR PLAN – ZOOLOGY


B.Sc. and B.Sc. B. Ed. Pt-III

Paper –III

Developmental Biology

| S.No. | Topic | No. of lecture | WEEK |
|-------|--|----------------|---------|
| | UNIT-I | | |
| 1 | History of development biology | 3 | I |
| 2 | Types of asexual reproduction | 4 | I,II |
| 3 | Gemmule formation, budding and metrogenesis | 3 | II |
| 4 | Structure of male reproductive system of rabbits | 2 | II |
| | UNIT-II | | |
| 5 | Structure of female reproductive system of rabbits | 3 | III |
| 6 | Effects of hormones on reproductive system | 4 | III,IV |
| | UNIT-III | | |
| 7 | Gamete reproduction system | 3 | IV |
| 8 | Fertilization types and example | 2 | IV |
| 9 | Formation of gastrulation | 2 | V |
| | UNIT-IV | | |
| 10 | Embryonic induction | 2 | V |
| 11 | Differentiation origin | 2 | V |
| 12 | Regeneration features and types | 3 | VI |
| 13 | Deformed origin , effecting factor | 2 | VI |
| | UNIT-V | | |
| 14 | Principal of time effects | 1 | VI |
| 15 | Extra rope membrane of chicken | 3 | VII |
| 16 | Korak building types and significance | 2 | VII |
| 17 | Growth and development in neural bhaban | 3 | VII |
| 18 | Study of decay and old age | 2 | VIII |
| 19 | Development and function of placenta | 1 | VIII |
| 20 | Study of metamorphosis in amphibian | 2 | VIII |
| 21 | Developmental stages in frogs | 3 | VIII,IX |
| 22 | Function of sperm and ovum | 2 | IX |
| 23 | Steps and significance of fertilization | 5 | IX,X |
| 24 | Study of different types of egg | 4 | X,XI |


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नाम विद्यालय - वीणा मैमोरियल पी.जी. कॉलेज कर्नाली

अर्द्धवार्षिक / वार्षिक परीक्षा, सत्र 20 23 20 24

नाम/रोल नम्बर - मुख्तान सीनी

परीक्षा क्रमांक

कक्षा - D.C.C. स्वामिनी वर्ग

विषय - Zoology

प्रश्न-पत्र संख्या

दिनांक

18/10/23

पूर्णांक

प्राप्तांक

| क्रम संख्या | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | कुल योग |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------|
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

नोट : यहाँ से लिखना प्रारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

ह. परीक्षक

Section-A

Ans. 1. यूरोपीय की सहायता से बीगा मछली उछलने का कार्य करती है।

Ans. 2. भारत में पायी जाने वाली महामछली के नाम निम्न हैं -

- (i) Apis labrata
- (ii) Apis Indica
- (iii) Apis florea
- (iv) Apis mellifica

Ans. 3

मधुमक्खी से प्राप्त होने वाले तीन लाभकारी पदार्थ निम्न हैं-

- (i) शहद
- (ii) मीम

Ans. 4 कीलमैनुषात शिशु के वयस्क होने तक रूप, संरचना, आकृति, आकार में परिवर्तन को कायांतरण कहते हैं।
और - डेउपील से मीदक होने पर रूपा से वयस्क कायांतरण होता है।

Ans. 5

मधुमक्खी से हमें शहद प्राप्त होता है।

Section - B

Ques. 6 कीटों में काथान्तरण

Ans.

कीटों में नवजात शिशु के वयस्क बनने तक रूप, संरचना, आकार में परिवर्तन की काथान्तरण कहते हैं। इस काथान्तरण में कीटों में संचनात्मक विभिन्नताएँ पायी जाती हैं। जैसे - टैडपोल से मीढ़क व पशुपा से वयस्क तितली बनने समय संचनात्मक परिवर्तन होते हैं। इससे काथान्तरण कहते हैं।

1) Ametabolous Metamorphosis :-

इस काथान्तरण में नवजात शिशु के वयस्क बनने तक कोई संचनात्मक परिवर्तन नहीं होता है अतः इसे अकाथान्तरण कहते हैं। इसमें नवजात शिशु व वयस्क संरचना समान होती है।

Ex. :- Silver fish, Spawning fish

2) Incomplete metamorphosis :-

इसमें नवजात शिशु की संरचना व वयस्क की बाह्य संरचना में अन्तर होता है। अतः इसे अपूर्ण काथान्तरण कहते हैं। इसमें नवजात

शिशु को नाइस कहते हैं। *Egg + development*

3) क्रमिक कायांतरण :-

इस कायांतरण में नवजात शिशु व वयस्क की संरचना मिलती होती है। इसमें नवजात शिशु को निम्न कहते हैं। निम्न व वयस्क में एक विशेषता यह होती है कि वयस्क की ~~संरचना~~ पंख बाह्य जननिक अंग के रूप में होते हैं निम्न में। उलझा अभाव होता है। निम्न की निर्मोचन की कई अवस्थाओं से गुजरना पड़ता है।

4) पूर्ण कायांतरण :-

होता है जैसे - *Egg, pupa, pupa* यह कायांतरण चार अवस्थाओं में पूर्ण होता है जैसे इसे ठीके पूर्ण कायांतरण कहते

है। सबसे पहले कायांतरण अण्डे में होता है। अण्डे को उचित तापमान आ सा-द्रता मिलनी है तो वह तबों में परिवर्धन में बदल जाता है। तबों का रमूपा में परिवर्धन से पहले वह जीवन ग्रहण करना बंद कर देता है। रमूपा अपने प्रकाश की स्रावित करके *pupae* में बनता है। अब रमूपा मृदु को रमूपा की धी *pupae* में लटक कर लेता है। और जीवन ग्रहण करना

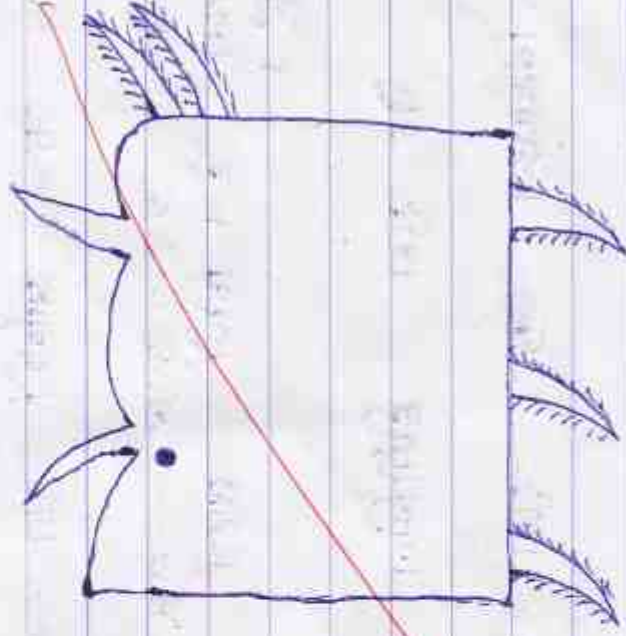
खंड कर देता है। मृषा से बिशुद्ध करने के बाद वह मृषा में लौटकर बाहर आ जाता है। और बचस्क में परिवर्धन हो जाता है। इसे पूर्ण कामान्तरण कहते हैं।

क्रिस्टीयिथा त्वर्ती निम्न है -

Ans 4

- 1) Nepotius lasva
- 2) Meta - Nepotius lasva
- 3) Paratozo lasva
- 4) Zoea lasva

1) Nepotius lasva :



नेपोलिमस लार्वा त्रिस्टेगिया लार्वा की प्रथम अवस्था है। इसमें लार्वा में दो पंरीना पाये जाते हैं। व नेपोलिमस लार्वा में तीन छपांग पाये जाते हैं। लार्वा छपांग की सहायता से गति करता है।

Fig. 8 आर्थ्रोपोंडा के सामान्य लक्षण निम्न हैं -

Fig. 8

(i) आर्थ्रोपोंडा संघ के प्राणी जल, चल, वायु वा मृमि के नीचे या हवाओं पर पाये जाते हैं।

(ii) इन संघ के प्राणियों का शरीर क्षिपार्थक सममित होता है।

(iii) उनकी शरीर के ऊपर एक मोटी म्यूलीक्युल की परत पायी जाती है। जिसे साइया आबण आ बाह्य कंकाल कहते हैं।

(iv) उनकी देह गुहा हीमोसिल क्लमनी है।

(v) इनमें विखण्डन का गुण पाया जाता है।

(vi) इन प्राणियों का शरीर बंटा रहता है।

Head, Thorax, Abdomen

तीन भागों में

(vii) इनके शरीर के दो सिर होते हैं।

ऊपर बास, कंकाल के आवरण से इनकी पंखों को जोड़ने का कार्य करती है।

(viii) इन प्राणियों को पड़ता है।

निर्मोचन की कई अवस्थाओं से गुजरना

(ix) पाचन तंत्र

निर्मोच होता है।

(x) इस संघ के प्राणियों में सभी उपजा पाये जाते हैं।

3

नाम विद्यालय

अर्द्ध वार्षिक / वार्षिक परीक्षा, सत्र 20-20

प्राचार्य
विभा निदेशिका पोली बाजार
प्राचीनी (पुणे)

नाम / रोल नम्बर आर्युषी नामा

परीक्षा क्रमांक

कक्षा U.S.C Part-I विषय 2001099-I प्रश्न-पत्र संख्या

दिनांक 18/10/23 पूर्णांक

| क्रम संख्या | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | कुल योग |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------|
| | | | | | | | | | | | | | | | | |

नोट : यहाँ से लिखना प्रारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

ह. परीक्षक

Part - A

Verd
Guraj

Ans-1. पेटीमाइजॉन का सा बावास समुद्री का अलवस्त्रिय पाल है।

Ans-2. अस्त्रियल → Corals, Green Algae, Brown Algae

हार्सिखल → Skelton, Ducker fish

Ans-3. पेटीमाइजॉन का सामान्य नाम न पेटीमाइजॉन को लैग्य फिश भी कहा जाता है।

Ans-2. अस्त्रियल → Skelton, Ducker fish
हार्सिखल → Corals, Brown Algae

(3) - Aug-4 मीरस्थ के दो विशिष्ट लक्षण -

- पुच्छ
- (i) दो लेवणीय व क्लेवणीय अल शीत में पायी जाती है।
 - (ii) इनका बाह्य कंकाल उपास्थियी का बना होता है।

Aug-5 साइक्लीस्टोमेरा में 10 जोड़ी कैलिक्स लिंगिकायें पायी जाती है।

प्रश्न 13

Aug-6 वर्ज - साइक्लीस्टोमेरा के सामान्य लक्षण -

- 1) इनका शरीर लम्बा व डील के समान होता है।
- 2) इनके शरीर पर मुच्छ पायी जाती है।
- 3) कम इनमें संघियुक्त उपांगा अनु० होते हैं।
- 4) इनका शरीर दो भागों में विभक्त होता है -
छाड़ एवं पुच्छ।

5) दो पल्ला प्रोस्टिन होती है, फिर भी क्लोस्की होती है।

उनमें चूषक, मूख अथवा सतह पर पाए जाते हैं जो कि जीली होते हैं।

7.) उनमें अंडर की तरफ 4-16 pairs जिस पार जाते हैं।

8.) उनमें एक जोड़ी पुनक पाए जाते हैं।

9.) उनमें नामा बिड़ उम्लु होते हैं।

10.) उनमें डिक्कोटिल हृदय पाया जाता है -

आलिन्द तथा निलय

11.) उनमें निषेचन बास! प्रकार का होता है।

12.) उनमें परिवर्धन अलग प्रकार का होता है।

13.) उनका बास! कंकाल उ. अस्त्रिमय होता है।
उपास्त्रिमय

Aug-8. उपास्त्रिम व अस्त्रिम मधुलियों में अंतर -

उपास्त्रिम व अस्त्रिम मधुलियों में अंतर को निम्न प्रकार समझा जा सकता है -

उपास्त्रिखल

अस्त्रिखल

1) ये समूही जल में पायी जाती हैं।

2) उनमें नासा चिखड़ अनु० होती है।

3) उनमें एलेक्ट्रोड्ड शलक पायी जाती है।

4) उनका शरीर कठोर होता है।

5) उनकी त्वचा कठोर होती है।

6) उनमें वायु आशय नहीं पाए जाते हैं।

7) उनमें बड़े कम विकसित होते हैं।

8) उनका कंकाल उपास्त्रिखल होता है।

9) उनमें निर्वचन आंतरिक प्रकार का होता है।

10) उनमें संघिरुजांग पाए जाते हैं।

1) ये समूही व अस्त्रिखल दोनों प्रकार के जल में पायी जाती हैं।

2) उनमें नासा चिखड़ उप० होते हैं।

3) उनमें एलेक्ट्रोड्ड, जीनाड्ड व सोडवलोड्ड शलक पायी जाती हैं।

4) उनका शरीर कोमल होती है।

5) उनकी त्वचा कोमल होती है।

6) उनमें वायु आशय पाए जाते हैं।

7) उनमें बड़े अधिक विकसित होते हैं।

8) उनका कंकाल अस्त्रिखल होता है।

9) उनमें निर्वचन बाह्य प्रकार का होता है।

10) उनमें संघि उपांग अनु० होते हैं।

प्रश्न- न पेट्रोमायजनीन → इसका समझने वाला पीछा ~~पेछा~~ पिकरा होता

- वर्गीकरण
- संघ → कोर्डेटा
 - उपसंघ → अंगीनथा
 - वर्ग → साइक्लोस्टोमला
 - गण → पेट्रोमाइजोनिथिया
 - वंश → पेट्रोमायजनीन

किसका सामान्य नाम लैम्पे पिका होता है। पेट्रोमायजनीन एक बाघा परजीवी होता है। बहुत से वैज्ञानिकों ने इसको नजर आंका बाघा परजीवी कहा तथा कुछ वैज्ञानिकों ने इसे बाघा के समान बताया तथा उसे ब्रिकार के रूप में गिना है। यह है तथा उनमें बाघा पाया जाता है। बाघा पीछा होती है। उनमें चुचक तथा मुख का धात है। जो होता है, जो भोजन को खाता है। प्रीम की साहयता से कोरद कर खाती है। तथा ये मपनी जीभ का आग-धुमाती रहती है। इनमें बाघा

प्रकार का निर्वचन पाया जाता है। ये प्रपन्न वसंत ऋतु से बहते
 ऋतु में करती है। पट्टमाश्रयों आपने भी बोसले में देवी की
 तथा फिर पट्टमाश्रयों आकार ~~ब्रह्माण्ड~~ देता है और निर्वचन
 कि किया होती है। पट्टमाश्रयों प्रपन्न के बाद मर जाते हैं।
 यह नगैकि ये प्रपन्न के लिए अलवणीय जल में साती है।
 और वापस नहीं ला जाते हैं जिसके कारण इसकी मृत्यु हो
 जाती है। पट्टमाश्रयों आपता पोमला नदी के किनारे बने।
 है जो अपने मुह से कंकड़-पत्थर को उड़ता कर बोसले
 का निर्माण करता है। इनकी बल से समान होती

बाल्य! आकारिणी ३

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Unit Group 1

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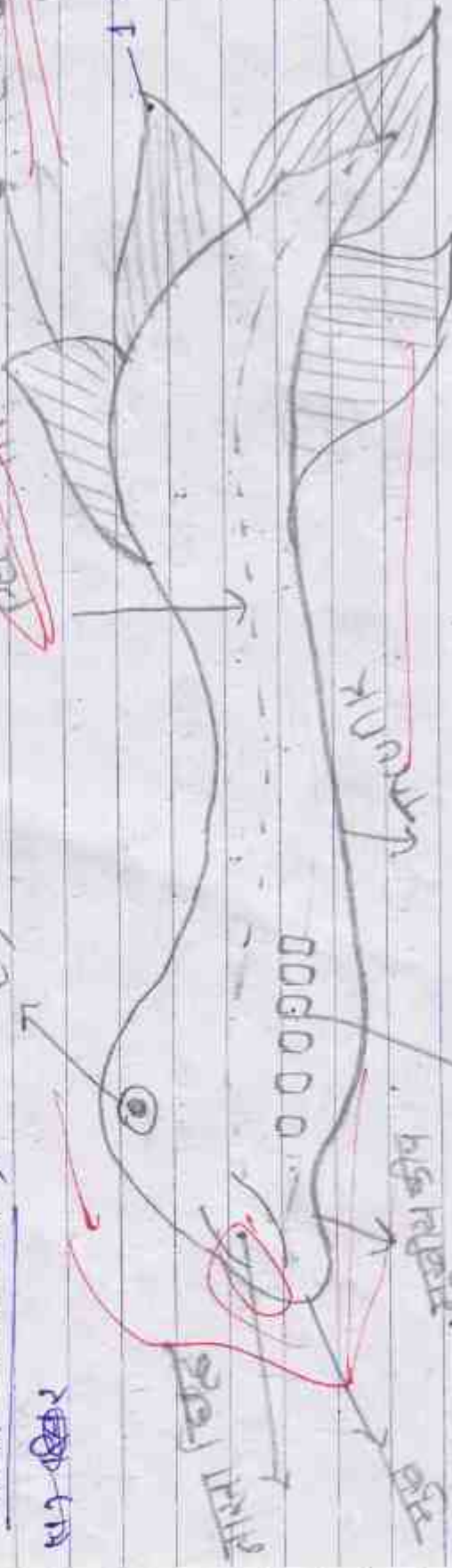
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सुखीय कीय

Pair 7

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सिर 3

पेट्रोमायजोन का आकार लम्बा छिल के समान होता है। ये लवणनिय
फल में रहने वाला प्राणी है। उनमें नासा छिद्र उप० होता
है। उनमें एक खोले नुमा संरचना पायी जाती है, जिससे
मुखीय कोप कहते हैं। जिसके द्वारा यह अपना भोजन ग्रहण
करती है। पेट्रोमायजोन की लम्बाई लगभग 1 m होती है। यह
लवणनिय फल में पायी जाने वाली सबसे लम्बी फिश
है। इनके बक्कीर पक्ष आवाज एक 30 cm लम्बी मछली
जैसी है। जिसके शरीर पर काले रंग के धारों वार
जाते हैं। ये द्वारा रचित होती है। ये बक्क पकड़ने उनमें
कुछ सघर्ष करती आकृति की होती है।

छाड़:- उनका ~~बहु~~ सिर व छाड़ विभेदित नहीं होता है। उनके
छाड़ की महत्व में एक सीमा रेखा उप० होती है।
नका छाड़ की ल० साधक होती है। उनमें कई प्रकार के
स वाल आते हैं। पहले न० के fin 1 बण्डल fin
कहलाते हैं। उनमें दूसरे न० के fin 2 बण्डल fin कहलाते हैं।
या इसमें गति देना मुख्यतः निष्ठ है या पार्श्व
पेट्रोमायजोन में पार्श्व रेखा पायी जाती है। यह छाड़ का
ये भाग में लट्ठी है।

(3) कुछ - ये पंद्रोमाख्यान का अंतिम भाग होता है, इसमें
कुछ तैत्तिरीय पंच वार प्रातः हैं, पंद्रोमाख्यान की
तैत्तिरीय में सोह्यत होती है

3

नाम विद्यालय

अर्द्ध वार्षिक / वार्षिक परीक्षा, सत्र 20 23 - 20 24

नाम / रोल नम्बर साक्षी जादवीन

परीक्षा क्रमांक

वर्ग B.Sc. B.Ed. - III

विषय

Zoology - I

प्रश्न-पत्र संख्या

दिनांक

18/10/2023

पूर्णांक

प्राप्तांक

| क्रम संख्या | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | कुल योग |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------|
| | | | | | | | | | | | | | | | | |

नोट : यहाँ से लिखना प्रारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

Section - A

ह. परीक्षक

Ans. 1) पैद्रीमाइजॉन सामान्यतः जलवासी समुद्री व अलवणजलीय होती है, यह दक्षिणी अफ्रीका व अंटार्कटिका के द्वीपों किनारे पर पाई जाती है।
अटलांटिक महासागर

Ans. 2) अस्थित मछली :- कॉर्प, सर्कर फिश

उपास्थित मछली :- शार्क, Ray मछली

Ans. 3) पैद्रीमाइजॉन को लेम्प मछली भी कहते हैं,

Ans. 5) मत्स्य के लक्षण :-

1) ये सामान्यतः जलवासी, लवणीय व अलवणीय जल में पाई जाती हैं,

2) दृश्य द्विकोष्ठीय होता है - आलिन्द व विलय में बंटा रहता है,

3) साइक्लोस्टोमिया में 10 जोड़ी तंत्रिका पाई जाती हैं,

Section - B

Ans. 6) साइक्लोस्टोमिया के सामान्य लक्षण :-

1) ये जलवासी, समुद्री होते हैं,

2) इनमें जबड़ा नहीं पाया जाता है, ये कशेरुक जंतु होते हैं,

इनमें लैम्बे व हंगफिश प्रमुख जीव हैं जो जल विकास की दृष्टि से बहुत महत्वपूर्ण हैं,

9) इनमें पुरुष पाई जाती हैं, जो जल में लैरने में सहायता करती हैं,

5) लक्ष्य - आलिन्य व निलय में बंटा रहता है,

6) इनका शरीर लम्बा इस समान होता है,

7) एक जींड़ी बृक्क पाए जाते हैं,

8) प्रत्यक्ष परिवर्धन पाया जाता है,

9) निर्वचन वाहरी होता है, 14

10) युग्मिमत तथा अयुग्मिमत पंख पाए जाते हैं,

11) शरीर ~~बि~~ घड़ व पुरुष में बंटा रहता है,

प्रश्न-7) पेड़ों का जीवन :- इसे सामान्यतः लैंगिक भी कहा जाता है,

वर्गीकरण :-

संघ - कोर्डेटा

उपसंघ - एग्नथा

वर्ग - साइक्लोस्पोर्मेटा

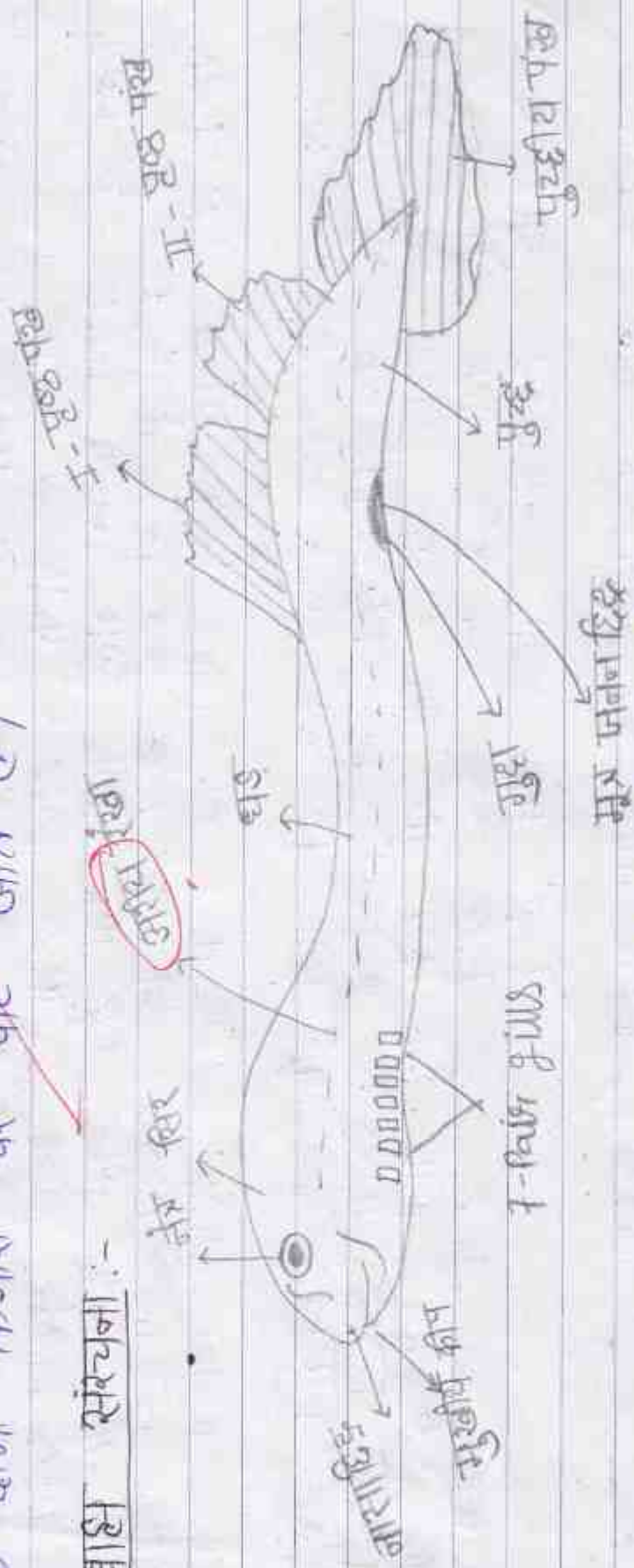
गण - पेड़ों का जीवन

वंश - पेड़ों का जीवन

स्वभाव व आवास :- यह जलीय, समुद्री जीव है, इसका यह कर अपने शिकार को पकड़ कर खा लेती है। कुछ वैज्ञानिकों के अनुसार यह लवक (larva) के समान होता है। अतः परमेश्वर ही है, क्योंकि यह शरीर शून्य से लैंगिक रूप से परिवर्तित हो जाती है, यह प्रजनन शुरू से वसन्त ऋतु तक होता है, क्योंकि यह प्रजनन शुरू से अलवणीय जल में जाती है, प्रजनन बौक इसकी सृष्टि हो जाती है, क्योंकि यह अलवणीय जल से वापस नहीं आ पाती, यह जल में पत्थर इकट्ठा कर घासिल बनता है, इनके घासिल समूह के

किनारों खोत हैं, ये घाँसियाँ मैं अण्ड देती हूँ, जिन पर नर मछली
 अपनी झुकाव डोंडू देती हूँ, इस प्रकार इसी वक्ष निर्वचन
 पाया जाता हूँ, ये अदलाविक महासागर तथा पतित महासागर
 के दर्जाने किनारों पर पाए जाते हैं,

1315 2022 :-



चित्र :- पैदाशान की संरचना

रसका शरीर उ मागी में बंधा रहता है

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इसका शरीर इल के समान लम्बा होता है, यह 1-2m तक लम्बी होती है, सबसे लम्बी पैदाइश/न मरीनस है।

1) सिर :- अग्र भाग में सिर पाया जाता है, इसका शरीर अग्रभाग से आगे की तरफ 8 इंच रहता है, गिरों मुख्य कीप कहते हैं, इसमें जबड़ा नहीं पाया जाता है, इसमें दात पाए जाते हैं जो मीजाइस से बने होते हैं तथा उसी रूप में व्यवस्थित रहते हैं, इसमें एक जोड़ी नेत्र तथा एक नासाद्वि पाया जाता है,

2) धड़ :- इसमें धड़ स्पष्ट रूप से देही होता है, लेकिन नेत्र के पीछे के भाग को धड़ कहते हैं इसमें इसरीय रेखा पाई जाती है, इसके मुँह भाग में एक पाया जाता है, चिन जिसमें गंधा तथा मुख जनन द्वि होते हैं, इसके पृष्ठ भाग में एक जोड़ी पृष्ठ पंख पाए जाते हैं,

3) पुच्छ :- धड़ के पीछे का भाग पुच्छ कहलाता है, इनमें पुच्छ पंख पाए जाते हैं, नर साहा में गंधा पंख पाए जाते हैं, जबकि नर में इसके स्थान पर मधुन अंकुरक पाया जाता है।

Ans. 8) उपास्थिल मछलियाँ

1) ये समुद्री जल में पाई जाती हैं।

2) इनमें gill cover प्रकार के शल्क पाए जाते हैं।

3) इनकी त्वचा कठोर होती है।

4) इनका शरीर कठोर होता है।

5) इनका अंतः कंकाल उपास्थि का बना होता है।

6) निर्धियन बाहरी होता है।



अस्थिल मछलियाँ

1) ये समुद्री तथा अलवणीय जल दोनों में पाई जाती हैं।

2) इनमें सायक्लोइड, cycloid, तथा गुनाइड प्रकार के शल्क पाए जाते हैं।

3) इनकी त्वचा कोमल होती है।

4) इनका शरीर कोमल होता है।

5) इनका अंतः कंकाल अस्थि का बना होता है।

6) निर्धियन आंतरिक होता है।

८) इनमें-अण्डे कम बनते हैं,

९) गुदा तथा मूत्र-जनन द्विद अलग-अलग नहीं होते,

१०) स्त्री व इमार्सर्विक मछलियाँ भी कहती हैं।

11) उदा०- शार्क, Ray Fish etc.

7) स्त्री अण्डे अधिक बनती हैं।

८) गुदा तथा मूत्र-जनन द्विद अलग-अलग होते हैं,

९) स्त्री वास्तविक अस्थिज मछलियाँ कहती हैं,

10) उदा०- सकर फिश, कॉर्प फिश etc.

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B.Sc. B.Ed. II

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परीक्षा क्रमांक

प्रश्न- पात्र संख्या

हयरीशक

नोट : यहाँ से लिखना प्रारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

Ans 2) Following species of honey bee are found in India:-

67px flower

Ans 3) Honey, Bee wax and apitoxins are the three useful products of apiculture.

I Ans 4) Metamorphosis :- The process of development of ^{immature} larva into its reproductive capable mature and active adult is known as metamorphosis. (1)

Ans 5) Honey is obtained by Honey bee. (1)

Ans 1) Unopods of ~~stump~~ work whenever the prawn is feels danger it works like a spring to help it bounce and protect itself and it give rise to telson and an ~~anus~~ also present near it. (1)

Section-B

Ans 8) General characters of phylum Arthropoda are following:-

- i) Body is bilaterally symmetrical, triploblastic and metamericallly segmented.
- ii) True coelom is present in the body fluid

filled and largely replaced by haemocoel.

iii) ~~Sexes~~ Sexual dimorphism is present.

iv) Cilia and flagella absent.

v) Jointed appendages are present joint to a somite function as jaw, legs etc.

vi) Muscles are striated and capable of rapid contraction.

vii) Digestive system complete from mouth to Anus.

viii) Mouth parts are adapted for various modes of feeding. 3

ix) Excretory organs are green glands and nephridia tubules.

x) Organ system level of body organisation.

xi) Sense organs comprised of eyes and compound eye.

7 Ans 7) Crustacea shows direct and indirect both types of development. Following are the larva of crustacea which are seen in the indirect development:-

- i) Nauplius.
- ii) Zoea.
- iii) Megalopa

Intermediate forms of larva such as - Metanauplius and phrotrozoa.

Zoea also have some different forms which are specifically named:-
Mega Mysis.
Phyllosoma.

i) Nauplius larva:-

It is the characteristic feature of the Crustaceans and found in most of them. It is the most basic and simple larva

which further develops into different forms or directly develops into adults.

Nauplius larva is divided into three indistinct regions a median eye, abdomen and appendages (antenna, antennule and mandible).

It is a minute structure and simplest form.

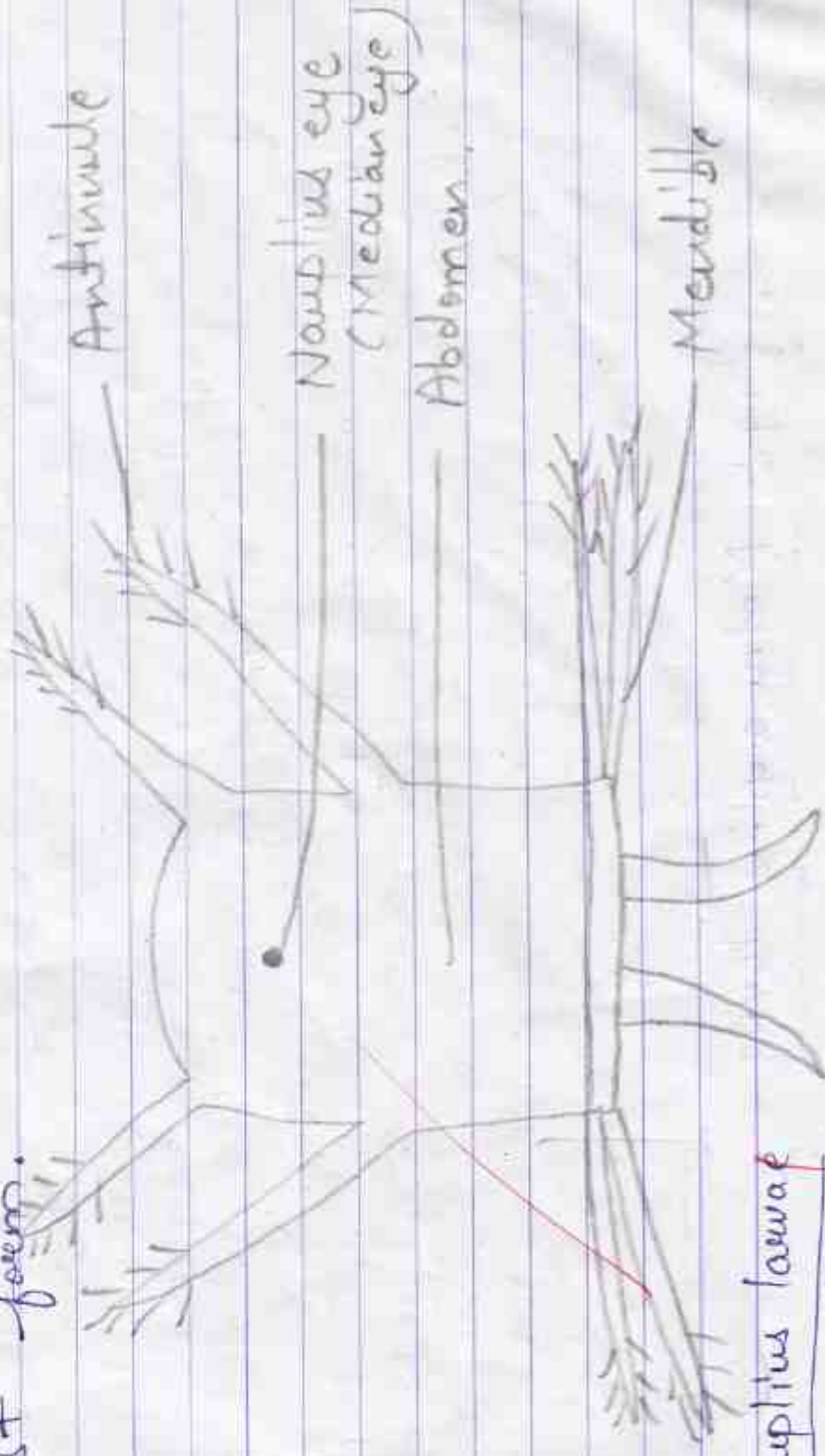


Fig:- Nauplius larva

ii) Metanauplius larva:-

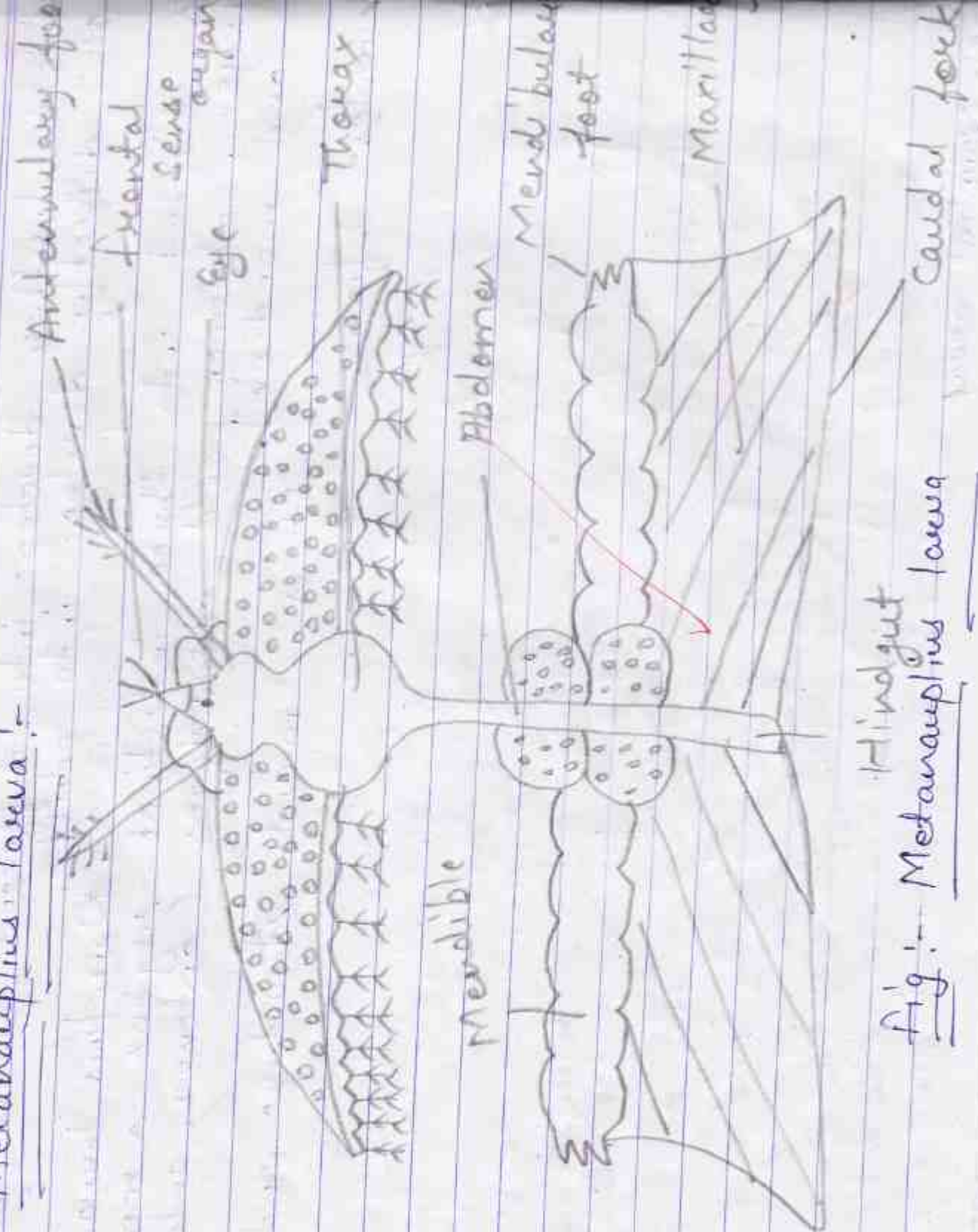


Fig:- Metanauplius larva

→ Nauplius larva further develops into metanauplius larva. It has a thorax and an elongated abdomen which gives rise to two caudal forks further.

Maxillae and maxilliped are also present in it.

In some crustaceans metanauplius develops into adult directly.

Jointed appendages are found mandible, antenna, antennule and sensory organs comprised of a frontal sense organ. Mandible further gives rise to mandibular foot.

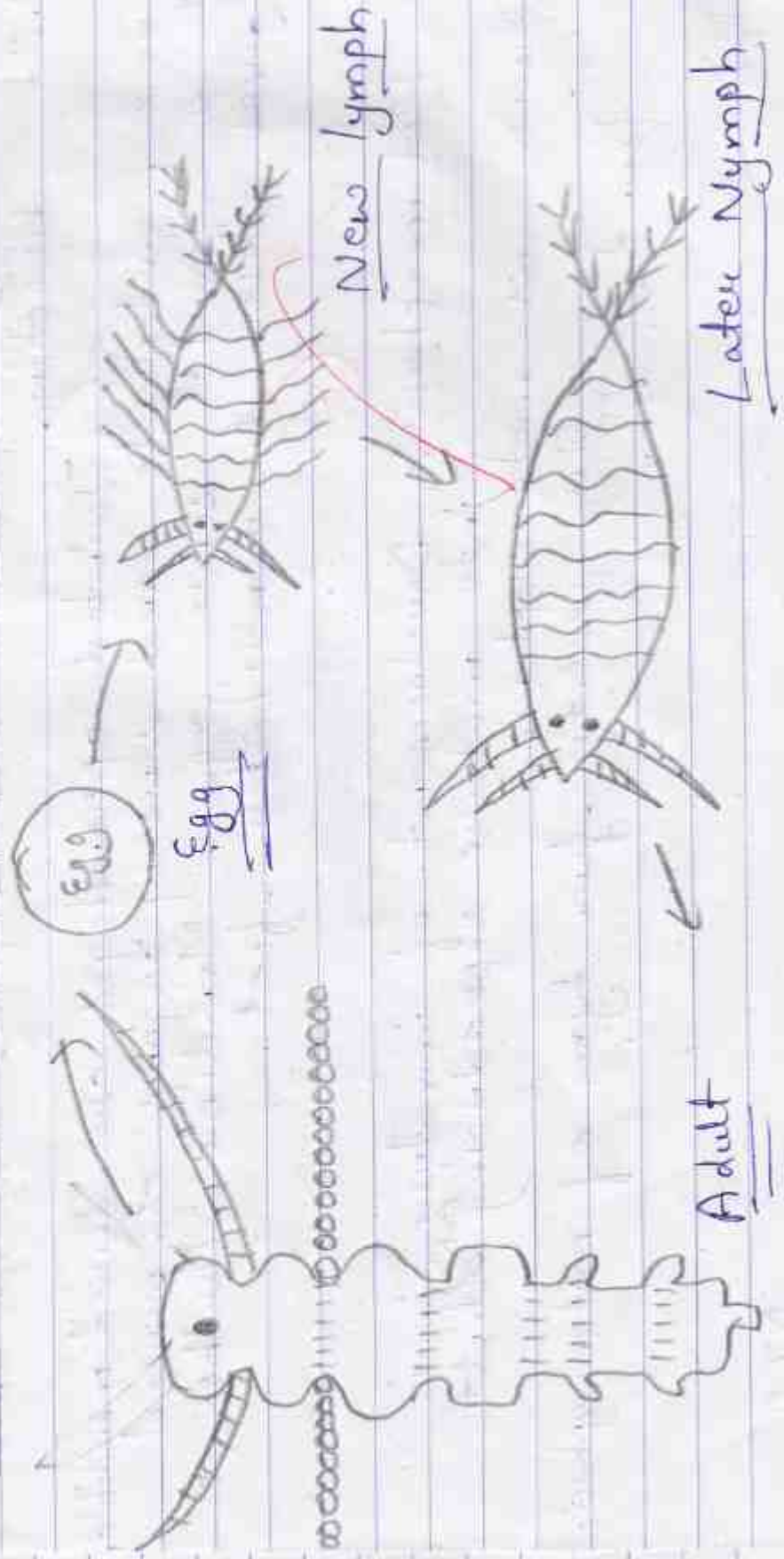
msc) Metamorphosis:- Development of immature larva into mature reproducing adult is known as metamorphosis.

In insects four types of metamorphosis are found:-

i) New - metamorphosis or Ametabolus morphosis :-

In this type of morphosis the newly formed larvae is similar to the adult except in size and the spine incitales.

Ex:- Stonefly.



नाम विद्यालय

अर्द्धवार्षिक / वार्षिक परीक्षा, सत्र 20__ 20__

प्राचार्य
श्रीमान श्रीगोविन्द शर्मा
करोली (राज.)

नाम/रोल नम्बर

Anam Singh Jadhav परीक्षा क्रमांक

कक्षा

18/10/23

विषय

प्रश्न- पत्र संख्या

दिनांक

पूर्णांक

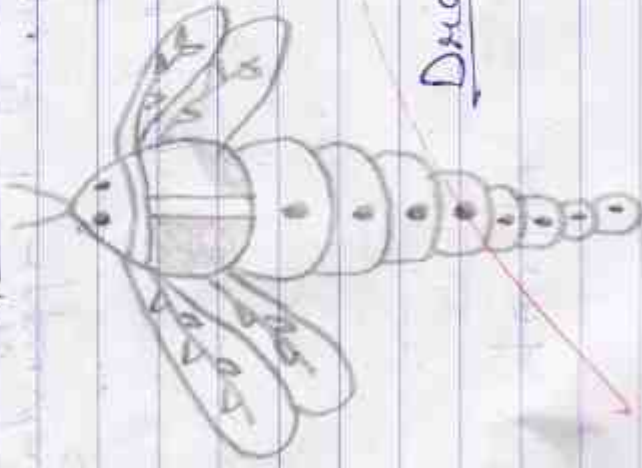
प्राप्तांक

| क्रम संख्या | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | कुल योग |
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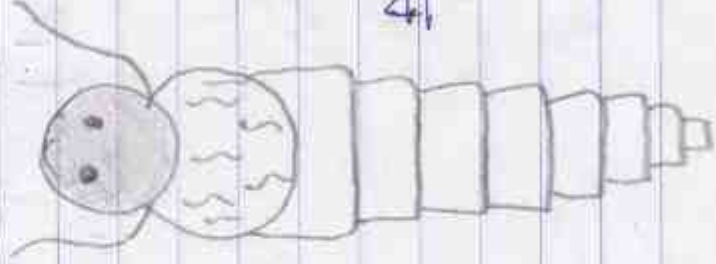
नोट : यहाँ से लिखना प्रारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

ह. परीक्षक

Incomplete metamorphosis / Hemimetabolus morphosis:-



Dragonfly (adult)



Naiad

In this type of metamorphosis the newly form Nymph or naiads are aquatic and respire by tracheal gills while the adult is terrestrial and respire by trachea.
ex:- Mayfly and Dragonfly.

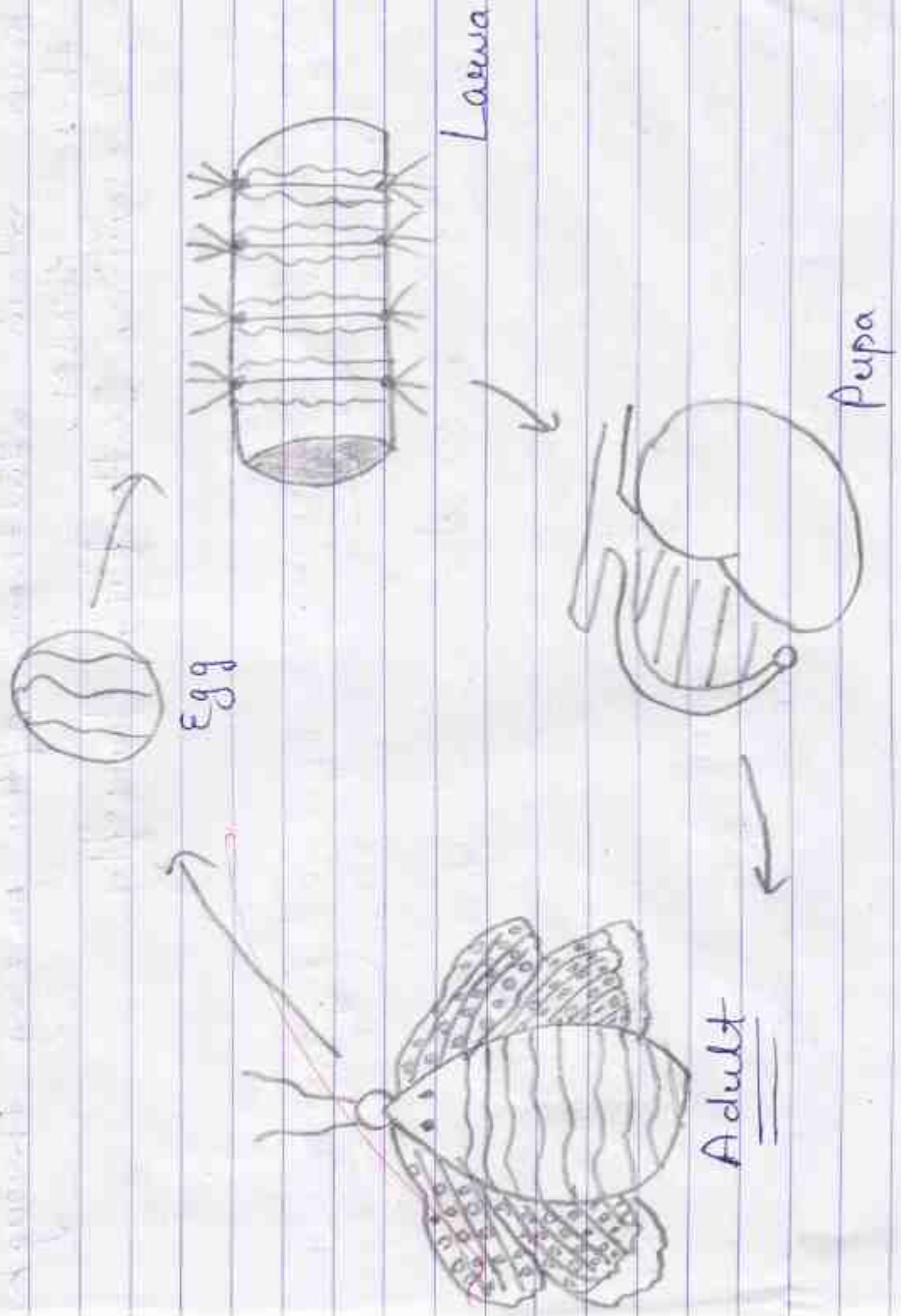
iii) Paucimetabolus metamorphosis:-

In this type of metamorphosis the the nymph and adult differs that adult lack in wings and genital appendages (external).

ex:- Grasshopper, Sting bug.



1) Complete metamorphosis or Metabolus morphosis :-



In this type of metamorphosis there are many stages such as egg, larva, pupa and adult, new born attain adulthood after passing through all these phases.

ex:- Mosquito, Butterfly, Housefly.

5

नाम विद्यालय

Veena Memorial P.G. College, Kanauli

अर्द्धवार्षिक / वार्षिक परीक्षा, सत्र 2023-2024

प्राचार्य

वीणा मेमोरियल पीजी कॉलेज
कटौली (राज.)

नाम/रोल नम्बर Ranjay Singh Gaurawat परीक्षा क्रमांक

कक्षा B.A. U.E.V. Part-I विषय Mathematical Statistics प्रश्न-पत्र संख्या

दिनांक 18-10-2023 पूर्णांक 20 प्राप्तीक 10

| क्रम संख्या | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | कुल योग |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------|
| | | | | | | | | | | | | | | | | |

नोट : यहाँ से लिखना प्रारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

ह.परीक्षक

खण्ड अ

A
Answer

वर्तमान समय में क्रिस्टा कि महारानी कमिला है।
एक्सचेंजर ⇒ राज्य के न्यायिक भाव को एक्सचेंजर कहा जाता है।

बिटान जेमीर आंगला सोवियन काल कि देन है।

(13) क्रिस्टा में दो राजनैतिक दल पाये जाते हैं जो निम्न हैं:-

(14) Conservative Party

(15) Labour Party

राष्ट्रमंडल देश ⇒ ऐसे देश जो क्रिस्टन के गुलाम रह चुके हैं
या जिन देशों पर क्रिस्टन ने शासन किया था।

खण्ड-व

Ans 1. ब्रिटिश संविधान के स्रोत:-

ब्रिटिश संविधान के स्रोत



ब्रिटिश संविधान के स्रोत को निम्न बिन्दुओं द्वारा समझा जा सकता है:-

- (I) संवैधानिक समझौते व ऐतिहासिक प्रलेख
- (II) संसदीय विधियाँ
- (III) न्यायिक निर्णय

① संवैधानिक समझौते व ऐतिहासिक प्रलेख ⇒ संविधान के विकास में बड़ा योगदान रहा है। जब जम्मा ब्रिटिश राजतंत्र के विरोध का हो जाने पर जम्मा ने कर का भारी बोझ उठाया था। इसके तहत कुछ अधिकार पत्र प्रावधान में आये:-

1215 का अधिकार पत्र या मैग्ना कार्टा \Rightarrow इस अधिकार पत्र के तहत नागरिकों की स्वतंत्रता के संदर्भ में था।

1628 का अधिकार पत्र \Rightarrow इस अधिकार पत्र के तहत राजा कि बाने को खत्म किया।

1689 का अधिकार पत्र \Rightarrow इसके तहत ब्रिटिश ने लोकतंत्र के द्वार सदैव के लिए खुल गये व ब्रिटिश संसद बना दिया।

(ii) संसदीय विधियाँ \Rightarrow संसदीय विधियाँ ब्रिटिश स्रोतों का दूसरा मुख्य स्रोत है। राजा कि असमीत शक्ति पर अंकुश लगाने के लिए व ब्रिटिश जनता के अच्छे जीवन यापन के लिए साथे गए विद्योपक संसदीय विधियाँ कहलाती हैं।

जैसे:-
उत्तराधिकारी अधिनियम - 1689

सोमरसेट विवाद - 1701

बनाम लीव अधिनियम - 1772

अनमत प्रतिनिधित्व अधिनियम - 1948

न्यायिक निर्णय \Rightarrow यह तीसरा मुख्य स्तंभ है। श्री. जायसी संविधान को न्यायधीनता द्वारा निर्मित मानते हैं।

① अभिसमय :- जनता द्वारा पीढ़ी दर पीढ़ी जारी रखी गयी परम्पराओं को अभिसमय कहा जाता है।

② टीकाएँ :- यह संविधान के विभिन्न पक्षों की व्याख्या करती हैं। वेजदॉट इसे स्कैंडल डालेंड का संविधान व जायसी इसे संविधान विधि मानते हैं।

ब्रिटिश संविधान कि प्रमुख विशेषताएँ:-

① निरन्तर विकास में संविधान \Rightarrow ब्रिटिश संविधान का विकास वर्षों से हो रहा है। निरन्तर विकास का स्केल 1900 उदाहरण है।

② लिखित व अलिखित संविधान \Rightarrow ब्रिटिश संविधान विश्व का एकमात्र ऐसा संविधान है जो लिखित व अलिखित दोनों रूपों में है। ब्रिटिश संविधान में संसदीय विधियाँ आदि हैं वह लिखित रूप में हैं। अन्यथा सभी अलिखित रूप में हैं।

3) परिवर्तनशील संविधान \Rightarrow ब्रिटिश का संविधान बेहतर बना लिया है एवं इसमें आसानी से परिवर्तन किया जा सकता है।

उदा. 1936 में ब्रिटिश शासक एडवर्ड अष्टम ने कॅथोलिक महिला स्पिंसमन से विवाह करने के लिए संसद में आड़े हाँटे में स्वीकृति प्राप्त कर ली।

4) एकात्मक शासन व्यवस्था \Rightarrow एकात्मक शासन जिसमें सभी शाक्तियाँ सभी कानून सरकार द्वारा बनाये जाते हैं।

5) दीयल्ययी पद्धति \Rightarrow ब्रिटिश शासन में जो दो पाये जाते हैं:-
अनुयायकीय यल व श्रमिक यल।

अनु. 2. ब्रिटिश राजा एवं राजमुकुट में अंतर \Rightarrow ब्रिटिश में राजा के महत्वपूर्ण माना जाता है। राजा एवं राजमुकुट में अंतर निम्न प्रकार पाये जाते हैं:-

1) व्यक्ति व संस्था का अंतर \Rightarrow ब्रिटिश में राजा व राजमुकुट के लिए एक कहावत है कि राजा मर

है राजा चिरंजीवी है। इससे राजा मृत राजा के लिए तयुक्त हुआ है एवं राजा चिरंजीवी, ब्रह्म राजा के लिए उपयोग किया गया है।

② स्थाई व अस्थायी का अंतर ⇒ राजा एवं राजा में एक यह भी कहा अंतर है। राजा अस्थायी होता है वह एक अवधि के बाद समाप्त हो जाता है किंतु राजा स्थाई होता है और यह सदा के लिए होता है।

③ सामूहिक व व्यक्तिगत का अंतर ⇒ राजा जब राजा की जगह करता है तब वह अकेला होता है किंतु राजा की धारण करने के बाद सभी वह सामूहिक रूप से कार्य करता है अर्थात् राजा सभी के लिए कार्य करता है।

④ उत्तरदायित्व व अनुत्तरदायित्व का अंतर ⇒ राजा अनुत्तरदायित्व होता है व राजा उत्तरदायी होता है कि राजा कोई भूल नहीं कर सकता या राजा से कोई गलती नहीं हो सकती।

वास्तविक व औपचारिक शक्तियों का अंतर → राजा के पास शक्तियाँ होती हैं वास्तविक शक्तियाँ राजा के पास औपचारिक शक्तियाँ होती हैं।

खण्ड 2

'ब्रिटिश संविधान समिति' कि ठीकरी का परिणाम है, यह विकसित कहा जाता है क्योंकि ब्रिटिश संविधान निरंतर विकास का संविधान है। यह वर्षों से समझ के अनुकूल स्वतः ही विकसित होता रहा है।

ब्रिटिश संविधान का विकास विभिन्न समायो के अनुरूप हुआ है। इन समायो की कुछ भागों में कहा गया है:-

- ① आंग्ला - संकरन काल - 450 ई. - 1066 ई.
- ② नार्मन काल - 1066 ई. - 1153 ई.
- ③ एलबर्टीन व लंकास्ट्रियन काल - 1153 ई. - 1443 ई.
- ④ ट्यूडर काल - 1443 ई. - 1603 ई.
- ⑤ स्टुअर्ट काल - 1603 ई. - 1714 ई.
- ⑥ हनोवर काल - 1714 ई. - अब तक

∴ ① आंगला सैक्सन काल ⇒ बिटेन में ई. में रोमन साम्राज्य कि ई. 54 थी जो लगभग 450 तक चला । धीरे - धीरे आंगला सैक्सन जातियो ने इंग्लैण्ड पर आक्रमण करके अपना शासन स्थापित कर लिया । कैथीय सला कमजोर हो गयी । इस काल खण्ड कि तीन महत्वपूर्ण देन रही जो निम्न है।-

① राजपथ

विधान जेमोर्ट

③ स्थानीय शासन

① राजपथ :- इसका सार्थभाव 7-8 जातियाँ की शताब्दी में हुआ । इस समय लिए छोटे - 7-8 छोटे समुदायों का निर्माण किया जिससे राजपथ का सार्थभाव हुआ ।

② विधान जेमोर्ट :- राजा कि असीमित शक्तियों पर अंकुश लगाने के लिए बुद्धिमानों कि सभा को विधान जेमोर्ट कहा जाता है ।

③ स्थानीय शासन :- स्थानीय शासन बिटेन में आंगला से ही प्राप्त में रहा । इसकी प्रथम ईकाई को टाउनशिप कहा जाता है ।

अर्द्धवार्षिक / वार्षिक परीक्षा, सत्र 20__ 20__

अर्द्धवार्षिक / वार्षिक परीक्षा, सत्र 20__20__

परीक्षा क्रमांक

प्राप्त- पत्र संख्या

क्याना

प्राप्तिक

नोट : यहाँ से लिब्धना: प्रारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

ह. परीक्षक

③ एक्सेक्यूटिव व लंकार्ट्रीयन काल:- नार्मन काल में हुंजरी
द्वितीय ने कई अनुहारवादी
कार्य किये। इसी कार्य खण को अपने बन्धन में
शक्तियों को दो भागों में बाँट दिया।-

① प्रिवी काउंसिल:- इसमे प्रशासनिक व कार्यात्मिका शक्तियाँ

मिहित थी। उसका प्राचीन नाम राज्य परिषद् था।

(क) एक्सचेंजर :- राज्य के न्यायिक आव को एक्सचेंजर कहा जाता है।

(ख) ट्युडर काल \Rightarrow 1445 से 1485 तक के समय को का काल कहा जाता है। इसमें यो राज्य वशी लंकार्शियन व यार्क के मह्य सत्ता को लेकर युद्ध हुआ था।

इस युद्ध को 'Law of males' सप्तम राजा बने। इसमें हजरी विन्युओ को शामिल किया गया।
इसमें कुछ विन्युओ के नाम से जाना जाता है।

(ग) फोरे राजवंश कि स्थापना कि।

(1) सामन्तो कि व्यवस्था समाप्त कि।

(2) कानून कि शक्तियों में कटौती कि।

(3) भ्राज्य को पोप के नियंत्रण से आजाद कराया।

(4)

(घ) स्टुअर्ट काल \Rightarrow इसमें जेम्स नायक व्यक्ति शासन बने।
इसमें इन्होंने नामक पुस्तक
Law of Monarchies

लेखी। इसी काल में Parliament कि प्रथम साद्विवेशन हुआ
गया।
इसमें 4 बिन्दुओं को शामिल किया गया:-

- ① माउल कानूनों को रोक जाये।
- ② अनैतिक कर हटाया जाये।
- ③ स्वेच्छाचारी कारावास को रोक जाये।
- ④ स्वतंत्रता कि रक्षा कि जाये।

⑥ हेनोवर काल ⇒ सन् 1714 में रानी हेन कि मृत्यु के
बाद हेनोवर वंश से ऑल
प्रथम राजा बने। जॉर्ज वृद्धावस्था में राजा बने थे।

ब्रिटन के प्रथम प्रधानमंत्री सर रोबर्ट वालपोल बने थे।
House of Lord कि शक्तियों में कटौती कर
common गयी। अधिक शक्तियाँ House of
Common

नाम विद्यालय Veer Memorial H. College

प्राचार्य
श्रीम. विनोदकिश. पात्री डॉलर
करोली (राज.)

अर्द्धवार्षिक / वार्षिक परीक्षा, सत्र 20 23 20 24

नाम/रोल नम्बर अंशुला बेदीरा परीक्षा क्रमांक
कक्षा 8.111 year वर्ग विषय राजनीति विज्ञान प्रश्न पत्र संख्या

दिनांक 10-10-23 पूर्णांक 20 प्राप्तांक 19

| क्रम संख्या | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | कुल योग |
|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|---------|
| | | | | | | | | | | | | | | | | |

ह. प्रशिक्षक

नोट : यहाँ से लिखना प्रारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

Sec. A

वर्तमान समय में पेरिका सधारानी का नाम कमिना होला

1. ग्रेण्टालीर काल में राजा हैनरी I के दूर सम्पूर्ण कार्यवस्था की दो भागी में बांटे गया
2. विनम एक्सचेंजर के तहत सभी व्यापिक कार्य व्याय सम्बन्धि कार्य को शामिल किया गया।

3. विटानजीमोर राजा की व्यक्तिता पर अंकुश लगाने वाली एक संस्था भी थी
ऑडल - सैक्शन काल की टुन मानी जाती है।

1

बिंटेन में प्रमुख रूप से दो राजनीतिक दल हैं-

4.

(i) अनुदारवादी दल

(ii) क्रमिक दल

5. राष्ट्रमंडल देशों से ताल्लुक रखने वाले देशों में जो अपनी हर समय में
के औपनिवेशिक क्षेत्र का उपनिवेश रहते हैं

Sec. B

1. अग्निसमय → बिंटेन में जीकी दर पीढ़ी से चली आ रही परम्पराएं या
परम्पराओं की टांगी की अग्निसमय कहा जाता है

अग्निसमयों की बिंटेन परम्पराओं का आधार माना है जोयसी ने इन्हें
Convention शब्द का प्रयोग किया है

ऐन्सन के अनुसार - संविधान के रीति-रिवाज ही अग्निसमय माने
जाते हैं

सी. एसीर → संविधान के अंतर्गत विद्यमान है अभिसमय है।

इन में अनेक अभिसमय उचित हैं जो विरुद्ध हैं

से सम्बन्धित

प्रमाण से सम्बन्धित

अभिसमय → संसद से सम्बन्धित

मंत्रिमंडल से सम्बन्धित

से सम्बन्धित

समाप्त से सम्बन्धित → समाप्त की है संवैधानिक प्रमुख के रूप में जाना जाता है

लोकायुक्त में वहुमत प्राप्त व्यक्ति को लोकायुक्त में आमंत्रित करेगा तथा
कुसी की प्रधानमंत्री नियुक्त करेगा।

समाप्त अपने सभी कार्य मंत्रिमंडल की सलाहनुसार करेगी।

मंत्रिमंडल की वृद्धि में समाप्त आज नहीं होता है।

(iv)

संसद से सम्बन्धित → ब्रिटिश पार्लियामेंट के दो सदन होंगे -

- 4. ब. हाउस ऑफ लॉर्ड्स (i)
- 5. हाउस ऑफ कॉमन्स (ii)

जब लॉर्ड सभा न्यायालय के रूप में कार्यरित हो तो इसमें बाड़ी लार्ड्स का आवश्यक है

किसी भी विधायक के काम के काम तीन वाचन होंगे।

मंत्रिमण्डल से सम्बन्धित → मंत्रिमण्डल में बहुमत प्राप्त व्यक्ति प्रधानमंत्री बने

विदेश नीति से सम्बन्धित निर्णय मंत्रिमण्डल में गृह रखे जायेंगे

मंत्रिमण्डल से व्यक्तियों का समूह लोकसभा में से हीना चार्ल्स लॉर्ड

4. राष्ट्रमंडल से सम्बन्धित → ब्रिटेन में कुछ राष्ट्रमंडल देश ऐसे हैं जो स

सम्राट की भावने से राष्ट्रमंडल देशों की सम्पन्नता पर कोई उपाय नहीं

मे आपने आकर्षक एवं प्यारी चीजों में पूर्ण रूप से स्वतंत्र होते हैं।

प्रजातंत्र / लोकतंत्र से सम्बन्धित → इसी आदेश अभिसमय की कल जात है।

जनता और फिर गए आदेशों की जानना सरकार द्वारा की जाती है।

मत: संसारात, कहा जा सकता है कि बिटन में उनके अभिसमय से है जो बिटन जनता मानती है इसी कारण अभिसमयी का शिक्षा संविधान का मुख्य

ब्रिटिश संविधान → ब्रिटिश संविधान विश्व का एकमात्र विकसित या अलिखित संविधान है यह एक अच्छा संविधान है जिसका विकास हुआ है परन्तु ब्रिटिश संविधान में हमें निम्न विशेषताएं देखने की पड़ती हैं -

ब्रिटिश संविधान से सम्बन्धित अपितयों -

1 - ब्रिटिश संविधान प्रत्येक और संयोग की संज्ञा है।
इतना निम्न - ब्रिटिश संविधान प्रकसित है, निर्मित नहीं -

विकसित संविधान → ब्रिटिश संविधान दुनिया का एकमात्र ऐसा संविधान है जिसमें 1. फिफ्थी संविधान सभा के द्वारा नहीं लिखा गया और यह 1400 वर्षों के निरन्तर विकास का परिणाम है। जिस प्रकार कीचड़ में से सुन्दर कमल खिलता है उसी समतल में से फिनि में उजात का विकास हुआ है। ब्रिटिश संविधान को जनता ने ठीकरे से सीखा कर उसे उदण है एवं यह विकास का ही परिणाम है।

2. अलिखित एवं लिखित संविधान → सामान्यतः सभी संविधान संविधान सभा द्वारा लिखे जाते हैं परन्तु ब्रिटेन का संविधान अलिखित है। यह पूर्णतः अलिखित स्रोतों पर आधारित है। अलिखित संविधानों में अधिकार पत्र, व्यापक निर्णय, राजा का अधिकार, आदि शामिल हैं।

Ex -

ब्रिटेन → यदि संविधान का उद्देश्य संस्थाओं को काजनी बनाना है तो लिखित संविधान बेकार है।

के लम्बी। सुपरिबर्निनीय संविधान → प्रिन्स का संविधान लचीला है। आमतौर पर संविधान के अमेरिका के संविधान की भाँति कठोर है। यह अर्ध-प्रति-प्रकार की भाँति कठोर एवं गरम का मिश्रण है। यह अपनी प्रकृति सरल है इसका तात्पर्य है कि इससे कोई भी संशोधन को कानूनी का समावेश आसानी से किया जा सकता है। 1936 में समार एडवर्ड द्वारा केवलिक महीला सिम्पसन से विवाह करने पर आधी राँटे के भीतर जमा कानून बनाया। सबसे बड़ा गहरा है।

एकलत्मक शासन व्यवस्था → प्रिन्स में संघात्मक शासन व्यवस्था के स्थान पर एकलत्मक शासन व्यवस्था है जिससे तात्पर्य है कि प्रशासन की सम्पूर्ण कवित्वों एक ही सरकार केवल व केवल केन्द्र सरकार के हाथों में होती है और यही से शासन व्यवस्था संचालित होती है।

15. संसदात्मक व्यवस्था → प्रिन्स में बहुमत प्राप्त व्यक्ति प्रधानमंत्री बनता है और इसका प्रिन्स पार्लियामेंट में दो सदन होते हैं।

- (i) House of Lord
- (ii) House of Common

राजनीतिक दल / दलीय व्यवस्था

→ किसी संविधान के अन्दर दलीय व्यवस्था को भी अपनाया गया है जहाँ पर

1. दल होते हैं

2. कंजर वैरिफ पार्टी

(i) लीबर पार्टी

(ii)

3. बिधि का शासन → डंगरसी → फिरेन में

ज्यादा स्वतंत्रता का राज विधि कासी के आधार पर वहाँ

4. स्वेचालित होती हैं

राजतंत्रात्मक शासन

→ फिरेन में गया

5. समाज के कई अक्सर के सारद्वि एवं फिरेन के केवल नाममात्र के ही प्रमुख

6. राजतंत्रात्मक शासन प्रकृति के अप समाज की भावा लोकिक समाज की स्थिति समान होती है

(i) नेतावनी देना

(ii) प्रामर्श देना

(iii) जीवसाहित करने की शक्ति

अर्द्धवार्षिक / वार्षिक परीक्षा, सत्र 20__20__

परीक्षा क्रमांक

विषय — राजनीति विज्ञान प्रश्न-पत्र संख्या

प्रासिक

प्राप्तिक

नोट : यहाँ से लिङ्गनाः पारम्भ कीजिए और पूरे पृष्ठ के दोनों तरफ लिखिये।

डॉ. परीक्षक

Dec.

6. ब्रिटिश संविधान → हम सभी व्यक्ति की ब्रिटिश की इंग्लैंड या ब्रिटिश जानते हैं इसका द्वारा नाम द ग्रेट ब्रिटिश या
7. आयरलैंड का संयुक्त राज्य है यद्यपि नाम में वेल्स जोरि लैंड की शामिल नहीं किया गया है परन्तु ये भी ब्रिटिश ही भाग हैं
8. ब्रिटिश संविधान का विकास → इसका जन्म दामविलम्बी है दन्तियों के किसी संविधान का विकास स्वयं किया है
9. किसी संविधान सभा के अनुकूल - "ब्रिटिश संविधान सभा" और विवेक की सन्तान हैं। (सुसरी)
10. इसके आधार पर हम ब्रिटिश संविधान के विकास को विभिन्न समझते हैं।
11. ब्रिटिश संविधान के प्रमुख चरणों को इस प्रकार है
12. ऑगल - संविधान काल (450 - 1066 ई.)

- 1) नॉर्मन काल (1066-1153) ई.
- 2) प्लेन्टैजनेट / लंछा रिद्रशन काल (1153-1443) ई.
- 3) ट्यूडर काल (1443-1603) ई.
- 4) स्ट्यूअर्ट काल (1603-1714) ई.
- 5) विनोपर काल (1714-वर्तमान)

ऑंग्ल - सेक्शन काल → कुंघई. में प्रिटेन में रोमन साम्राज्य स्थापित हो गया इसके बाद लगातार आक्रमण होते रहे और आते में 450 ई. ऑंग्ल - सेक्शन जातियों ने अपना आधिपत्य प्रिटेन में स्थापित कर लिया इसका काव की 3 महत्वपूर्ण बातें निम्न थी।

1) राजपद → ऑंग्ल - सेक्शन काल में 7-8 जातियों ने अपना अपना आधिपत्य स्थापित कर लिया परन्तु सर्वोच्च कौण्ड स्थिति वेसेक्स राजघराने की थी और इस प्रकार अलग - अलग जातियों ने अपने अपने क्षेत्र स्थापित कर लिए और राजा वहाँ का प्रमुख हो गया।

ii) पिटानजोमीट → ऑंग्ल - सेक्शन काल में राजा की शक्तियाँ असीमित थीं इसका उन पर अंकुश लगाने के लिए बिशनजोमीट नामक संस्था की स्थापना की गई जिसमें अंग के कमीष्ट्र लोग, राजा के वाइकन्वित कापी सम्मिलित थे।

6. स्थानीय शासन → इस काल में स्थानीय शासन का उदय हुआ सम्पूर्ण देश 'ब्राह्मरी' में विभक्त था कायर 'हर्डरड्स' में तथा 'हर्डरड्स' में तथा 'हर्डरड्स' में तथा 'हर्डरड्स' में।
 7. शासी में प्रत्येक शासन में एक 'कायरमूर' होता था। तथा जबला आपने प्रसंगों पर विचार करती थी।

8. जर्मन काल → अंग्रेज-क्षेत्र काल के बाद केन्द्रिय सत्ता कमजोर हो गई इसके बाद 1066 ई. में जर्मन के राजा विलियम ने अपनी सत्ता स्थापित कर ली तथा 'विक्टोरियन' के समान कर दिया और जर्मन-की क्रांति-की कर अपनी विचारसत्ता को दे दी तथा उन्हें खेरेन की क्रांति-की गई।

9. 'लीगटानि' काल → इस काल में दूसरी पथग ने कई सुधारवादी कार्य किए लगे सम्पूर्ण प्रशासनिक व्यवस्था को दो भागों में बांट दिया।

10. प्रिंसीपैलिस → इसके तहत सभी प्रशासनिक अर्थात् व्यवस्थापन एवं कार्यपालक सम्पन्नि कार्य को जीड़ा गया।

11. एक्समनेयर → इसके तहत सभी व्यावहिक भागी 'कार्गो' की जीड़ा गया।

इसी काल में 16 जून 1215 को मैग्नाकार्टा अधिकार पत्र पर हस्ताक्षर किए गए जिसे महान अधिकार पत्र कहा गया ।

रहस्य

4. रहस्य काल → 1495-1495 तक का समयकाल प्रिटेन में रहस्य का काल था इस समय जॉर्ज एंड यार्क राजघरानी में युद्ध छिड़ गया इस काल में महत्वपूर्ण बातें सामने आई थी इस प्रकार है -

(1) सामंती की शक्ति की समाप्त कर दिया

(ii) संसद की शक्तों में बढ़ती की गई

(iii) जीस की शक्ति बाला से मुक्त कर दिया गया ।

5. रहस्य काल → इस काल में महारानी एलिजाबेथ के कीर्ति पत्र नहीं था तो 1603 में 1625 में चार्ल्स I के हाथों में सिंहासन आया तो एक अत्याचारी शासक था इसने संसद की शक्ति करना जारी रख दिया तो 1628 में एक अधिकार पत्र पर हस्ताक्षर करने पड़े

→ 1688 में जॉर्ज वूड के बाद विलियम च मैरी राजा और रानी बनीं तथा संसद ने उनसे कुछ महत्वपूर्ण बातें बचीकर रखवायी -

(1) संसद की पूर्ण सन्तुष्टि के बिना राजा कोई कर नहीं लगा सकता
(ii) संसद के शासन में जनप्रतिनिधि की भाषण देने सक्ता ।

राजा अपनी स्वायत्तिसार की व्यवस्था की स्थापना नहीं कर सकता।
(ii) राजा संसद से कुछ बिना कीड़े नहीं रख सकता।
(iii) राजा संसद से कुछ बिना कीड़े नहीं रख सकता।

द्वितीय काल - इस काल में जार्ज II को संवैधानिक छद्मब बनाकर
6. प्रिन्स में 1703 में सर राबर्ट वाल्पोल को प्रथम P.M.
नियुक्त किया गया तथा संसद के दो अंग बनाए गए -

- (i) House of Lord - उच्च सदन
(ii) House of Commons - निम्न सदन

अतः हम निम्न-चरणी के आधार पर कह सकते हैं की प्रिन्स का
संवैधान समग्र और ठीकरी का परिणाम है।

6



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UG-PG

S.No.: 2011-

UNIVERSITY OF KOTA, KOTA

(PRACTICAL EXAMINATION ANSWER-BOOK)

(To be filled in by the candidate)

Name of Examination बी.ए.-बी.एड. वर्क I प्रायोगिक परीक्षा 2018 Subject भूगोलCandidate's Name अरुण शर्मा Roll No 842531Father's Name नरेश लाल शर्माDate 25/09/2018

Batch _____

Marks Awarded :

| Exercise | Exercise | Exercise | Exercise | Exercise | Viva-Voce | Record | Total Marks |
|----------|----------|----------|----------|----------|-----------|--------|-------------|
| 1 | 2 | 3 | 4 | | 8 | 9 | 10 |
| 7 | 8 | 8 | 7 | 12 | 6 | | 48 |

Signature of Examiners

1 Dr. J. K. Singh
2 Dr. J. K. Singh

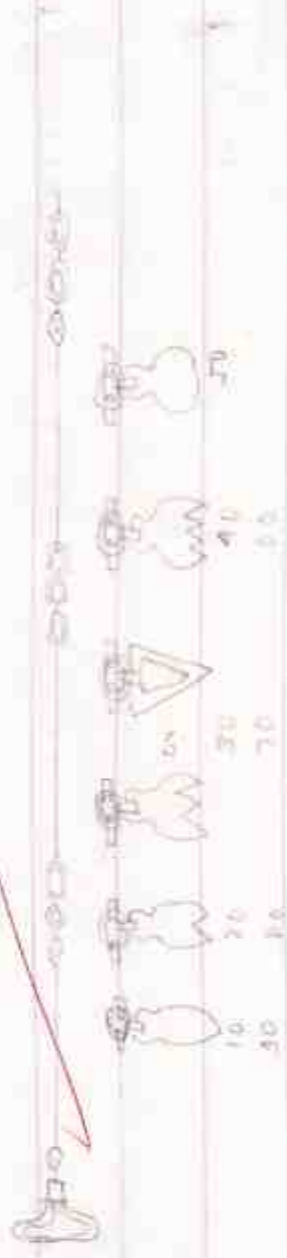
Ans (1) जरीब फीला (नर्वेक्षण) →

नर्वेक्षण की सभी विधियों में यह सबसे सरल विधि है। यह नर्वेक्षण जरीब ऊपर फीला ले किया जाता है, इसी कारण इसे जरीब फीला नर्वेक्षण कहते हैं। इसमें प्रयुक्त उपकरण निम्न हैं -

- (1) जरीब (2) फीला (3) तीर
- (4) नर्वेक्षण (5) ट्रक कम्पास (6) गुनिया (7) अकाशकीय गुनिया

(8) जरीब →

जरीब लोहा, इस्पात या एल्युमिनियम की बनी होती है। प्रत्येक जरीब में 100 कड़ियाँ होती हैं तथा इसके दोनों सिरे पर पीतल के हथौले लगे होते हैं। गणना की सुविधा के लिए इस-दस कड़ियों के अंतर पर क्रमशः एक, दो, तीन व चार बोंक वाले पीतल के दांते लगे होते हैं,



जरीब के आकार

जरीब तीन प्रकार की होती है -

1. इंजीनियर जरीब → इस जरीब का प्रचलन ब्रिटिश माप की इकाई वाले देशों में रहा है। इसमें प्रत्येक कड़ी की लंबाई एक फुट होती है।

2. मीटर जरीब → इस जरीब का प्रचलन दशमलव प्रणाली अपनाने के बाद बढ़ा है।

3. गवर्नर जरीब → इसको 17वीं शताब्दी में प्रचलित करने का श्रेय एडमंड गवर्नर को जाता है।

2. कीला →

क्षेत्र में दूरियों के मापन के लिए सर्वेक्षक को मापक फीते की आवश्यकता होती है। सर्वेक्षण के लिए स्थायिक फीता उपयोग में आता है।

3. त्रिर →

जरीब व फीमा निर्देशन में लोहे से बनी लीयों की आवश्यकता होती है।
ये सामान्यतः 12 से 18 इंच लंबे होते हैं।

(4) निर्देशन कण्ड -

क्षेत्र में किसी भी स्टेसन की लची अवस्थिति देख पाने के लिए निर्देशक उपयुक्त उपयोगी उपकरण है।

(5) रूप कमास -

निर्देशन के प्रारंभिक चरण में इसकी लक्ष्यता से चुंबकीय इतर का निर्धारण किया जाता है।

(6) गुनिमा -

यह लकड़ी से बना लाघारण उपकरण होता है। इसमें चार फलक परस्पर समकोण पर जुड़े होते हैं। यह उपकरण जरीब को लीखा आगे बढ़ाने तथा समकोण पर आगे बढ़ाने में सहायक होता है।

(7) प्रकाशकीय गुणियाँ :-

यह उपकरण प्रीमल से निर्मित बक्खों के समूह में बना होता है।

X

Ans 2

R.F. 1:200000

1 cm प्रदर्शित करता है = 2,00,000 cm

1 cm प्रदर्शित करेगा :-

$$\frac{2,00,000 \text{ km}}{1,00,000}$$

1.5 cm प्रदर्शित करेगा :-

$$\frac{2,00,000 \times 1.5 \text{ km}}{1,00,000}$$

$$= 30 \text{ km}$$



Ans

(4)

| सामानिक | कुल आवृत्ति (f) | संचयी आवृत्ति (cf) |
|---------|------------------|--------------------|
| 0-5 | 7 | 7 |
| 6-10 | 10 | 17 |
| 11-15 | 16 | 33 |
| 16-20 | 32 | 65 |
| 21-25 | 24 | 89 |
| 26-30 | 18 | 107 |
| 31-35 | 10 | 117 |
| 36-40 | 5 | 122 |
| 41-45 | 1 | 123 |
| योग | $\Sigma N = 123$ | |

$$M = \frac{N}{2}$$

$$M = \frac{123}{2}$$

$$M = 61.5$$

वृत्त

(Formula) $M = L_1 + \frac{m-c}{fm} \times i$

$$M = 16 + \frac{61.5 - 33}{32} \times 5$$

$$M = 16 + \frac{28.5}{32} \times 5$$

$$M = 16 + \frac{142.5}{32}$$

$$M = 16 + 4.45$$

अतः $M = 20.45$

8

Ans (5)

बहुलक \rightarrow

बहुलक से आशय झोंकड़ों के समूह में एक ऐसा केन्द्रीय मूल्य है जिसकी आवृत्ति सर्वाधिक बार आती है।
अर्थात् समान ही गई संख्याओं में से जिस संख्या की सबसे अधिक आवृत्ति होती है, वही बहुलक है।

बहुलक ज्ञात करने का सूत्र \rightarrow

$$Z = L_1 + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times i$$

जहाँ Z = बहुलक, L = बहुलक वर्ग की निम्न सीमा

f_1 = बहुलक वर्ग की आवृत्ति

f_0 = बहुलक वर्ग से पहले की आवृत्ति

f_2 = बहुलक वर्ग के बाद की आवृत्ति

i = वर्ग अंतराल

उच्चावच निरन्पण की विधि →

उच्चावच निरन्पण से तात्पर्य है पृथ्वी के वायुमण की स्थलाकृतियों एवं ऊँचाई, ढाल को मानचित्र पर प्रदर्शित करना। उच्चावच निरन्पण की विधियाँ निम्न हैं -

(1) हेउयूर →

हेउयूर वे छोटी-छोटी एवं दूरी रेखाएँ होती हैं जो विभिन्न ढाल की दिशा में ऊपर से नीचे खींची जाती हैं। उन्हें ढाल उन्धि कहते हैं वही ढाल-पास और ऊँचाई में ढाल होता है एवं खुली-खुली, छोटी और कम लम्बाई की जाती है।

(2) पर्यन्त छापाकरण →

इस विधि में घट कल्पना की जाती है कि उच्चावच के ऊँचे माँडल चित्र पर प्रकाश लीला एवं निरन्पण पड़े। जो भाग छापा में पड़ते हैं उन्हें रंगों या शेड द्वारा गहरा या हल्का रंग दिया जाता है।

(3) रेलर-रंजन विधि -

इसमें विभिन्न ऊँचाई की जगहों को विभिन्न आभाओं अर्थात् रंगों अथवा मोट-ले प्रदर्शित किया जाता है।

(4) स्थानिक ऊँचाइयाँ -

इसके द्वारा समुद्रतल से वास्तविक ऊँचाई का प्रदर्शन विविध चिन्हों से प्रदर्शित किया जाता है।

स्थानिक ऊँचाइयाँ - 1520m

तल चिन्ह

- BM 1520m

त्रिकोणमितीय चिन्ह

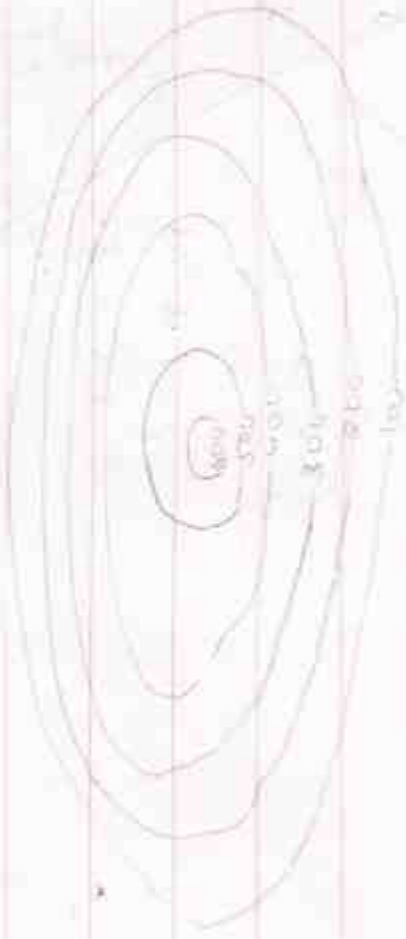
- Δ 1520m

अर्थात् जहाँ चिन्ह इंगित है वे स्थल समुद्रतल से 1520m ऊँचे हैं।

(5) समोच्च रेखाएँ -

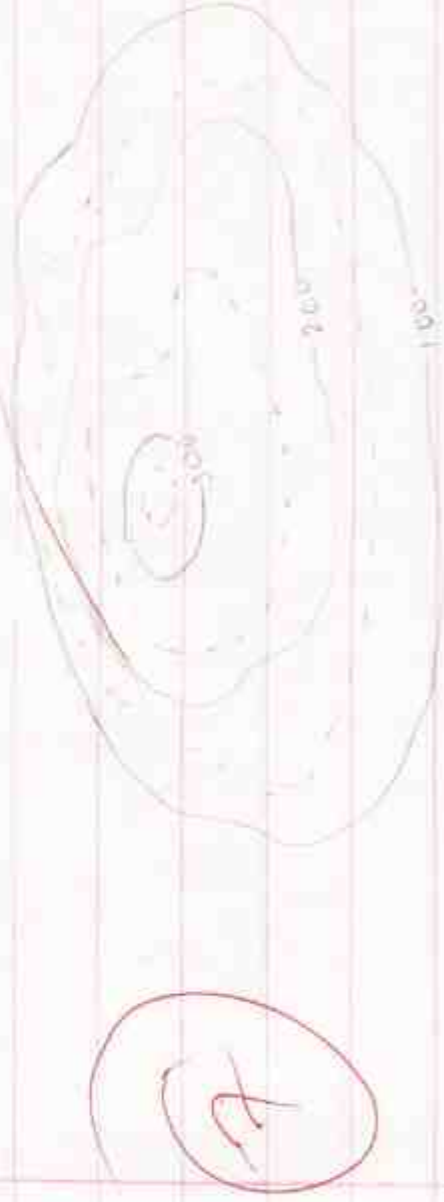
समोच्च रेखाएँ वे रेखाएँ होती हैं जो मानचित्र पर स्थित इन सभी स्थानों को मिलती हैं।

जिनकी ऊँचाई अनुक्रमित है समान है,



(6) आकार या खण्डित रेखाएँ

ये समोच्च रेखाओं के समान होती हैं।
 किन्तु इन्हें अनुपात से समोच्च रेखाओं के मध्य खण्डित रेखाओं
 द्वारा के रूप में दिखाया जाता है।



रतन कान्त

$$25 \overline{) 123} \quad 4 \text{ r } 15$$

12

3

28-5 x 5 4

2. 2. 2.

14205

16 45

$$32 \overline{) 142.5}$$

122

12157

$\frac{1}{2} \times \frac{1}{2}$

06

1031

$$\frac{0}{1}$$

32 x 9

123

160

261



UG-PG

S.No.: 2019-

076880

UNIVERSITY OF KOTA, KOTA

(PRACTICAL EXAMINATION ANSWER - BOOK)

(TO BE FILLED IN BY THE CANDIDATE)

Name of Examination Practical Examination BSc IInd year 2020 Subject PhysicsCandidate's Name Aditi Gang Roll No. 127671Father's Name Mr. Rajesh Kumar Gupta Enrollment No. /Date Batch G3731

Marks Awarded

Category: Regular / Ex / Non - Col. Regular

| Exercise / Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total Marks in Figures | Total Marks in Words |
|---------------------|----|----|----|----|---|---|---|---|---|------------------------|----------------------|
| Marks | 20 | 20 | 14 | 14 | | | | | | 68 | Sixty eight |

Name & Signature of Examiners 1. 2.

Question ① P-N junction डायोड की सहायता से किसी अर्द्धचालक का बैंड अंतराल ज्ञात करना।

Question ② एक डायोड का उपयोग करते हुए अर्द्धचालक-विप्लवण तथा स्वं सकार के फिल्टरों का उपयोग कर अध्ययन किया जा रहा है।

पु. १२/१२/१८

उपकरण → एक अर्धचालक संघि डायोड, माइक्रोमीटर, संचायक सेल, तापमापी, कैलोरीमापी आदि।

Ans ①

सिद्धांत → जब P-N संघि डायोड की परन्व वायसित किया जाता है तो संतप्त धारा IC अर्धचालकों में अल्पसंख्यक वाहकों के द्वारा होती है। उत्क्रम बायस IS संघि डायोड के ताप तथा बैंड अंतराल पर निर्भर करती है।

$$\left(\frac{-q\Delta E}{kT} \right)$$

$$\rightarrow \log_e I = \log_e A_S - \frac{q}{kT} \Delta E$$

यहाँ ΔE = बैंड अंतराल (eV)

$$q = 1.6 \times 10^{-19} \text{ C}$$

$$k = 1.38 \times 10^{-23} \text{ J/K}$$

$$\log_e I = \log_e A_S - \frac{1.6 \times 10^{-19}}{1.38 \times 10^{-23}} \times T \Delta E$$

$$\log_{10} I = \log_{10} A_S - 5.306 (0E) \times \frac{1000}{T}$$

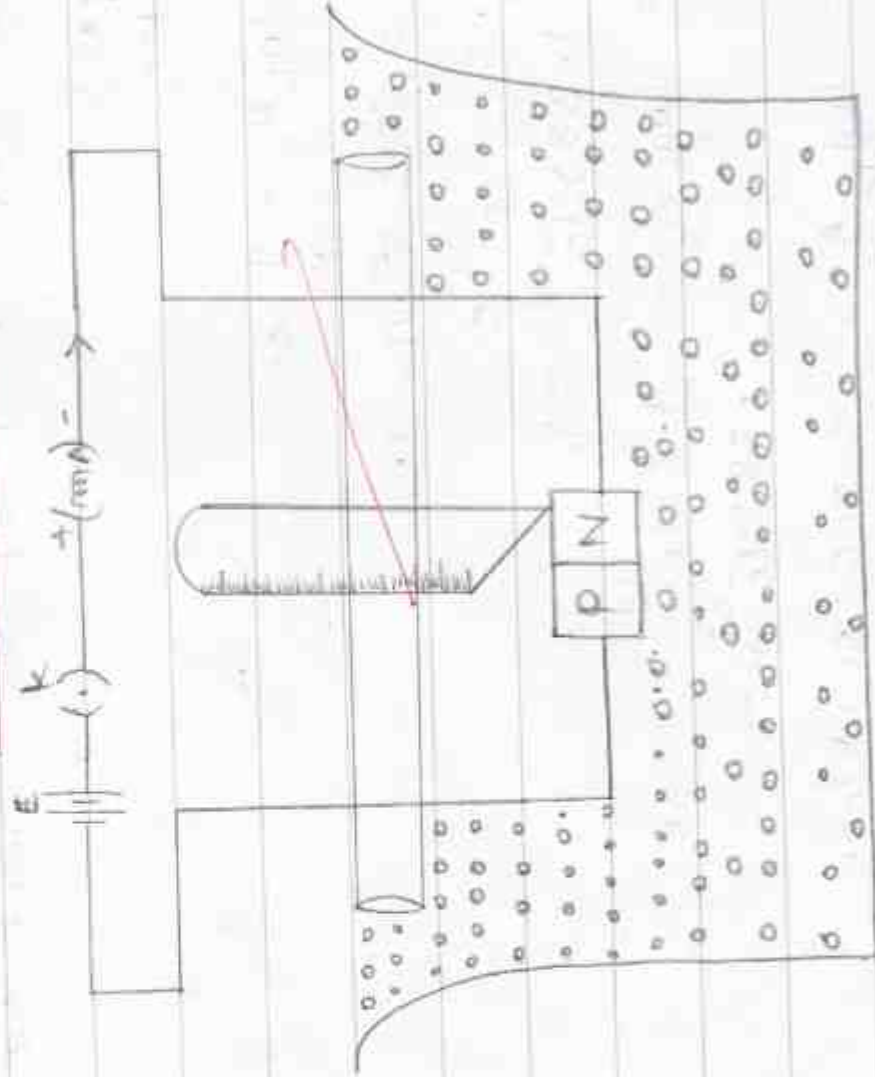
Q.

अतः $\log_{10} I$ तथा $1000/\eta$ में ग्राफ खींचने पर एक सरल रेखा प्राप्त होगी है।

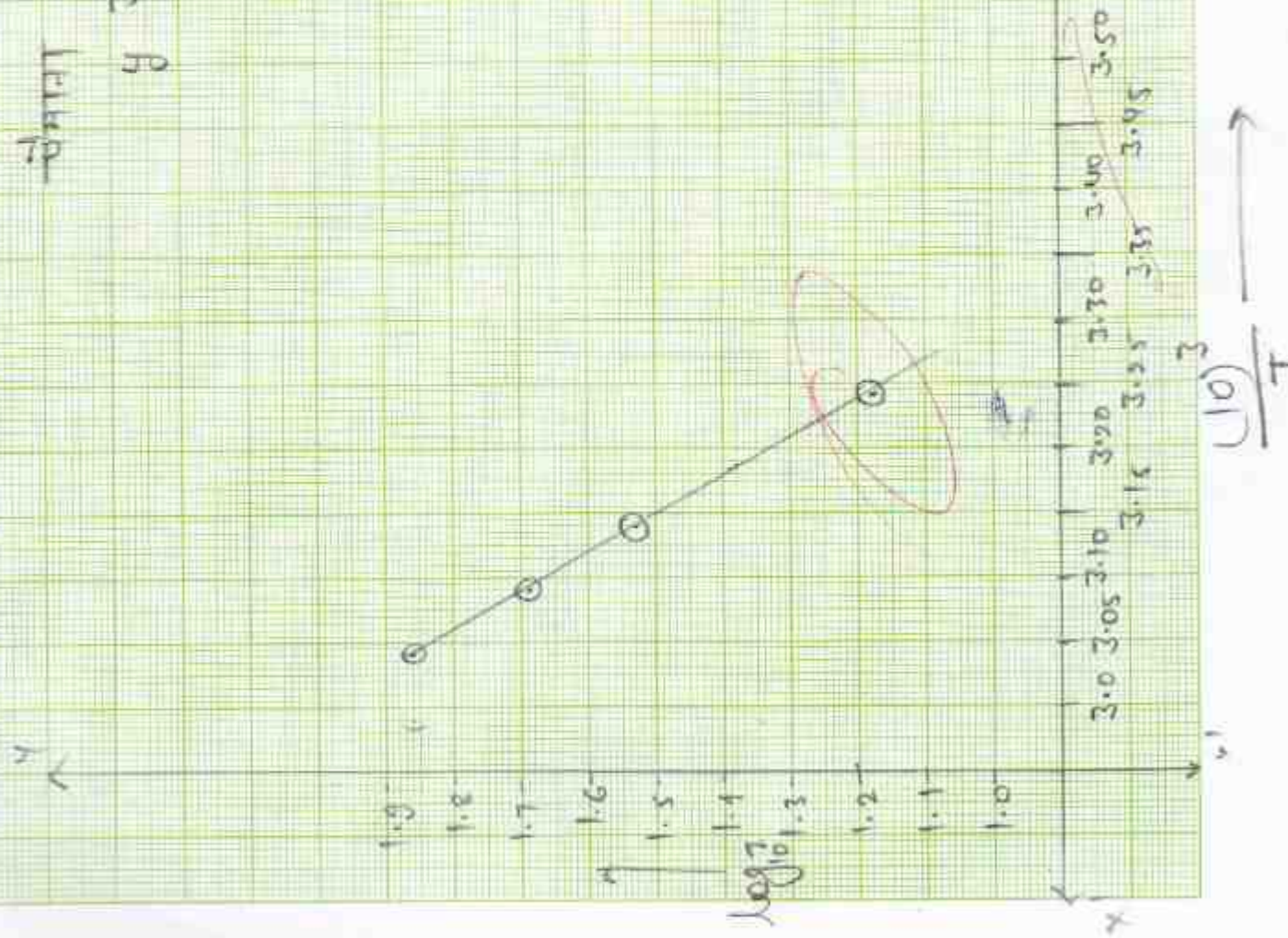
Q.

जिसकी प्रकणता $S = 5.036 \times \Delta E = AB/BC$

प्रकणता $\Delta E = \frac{1}{5.036} \left(\frac{AB}{BC} \right) = 0.30 \text{ eV}$



प्र. १२ (१०)

$$\begin{aligned} \text{Zn} + \text{H}_2\text{SO}_4 &\rightarrow \text{ZnSO}_4 + \text{H}_2 \\ \text{Zn} + \text{H}_2\text{SO}_4 &\rightarrow \text{ZnSO}_4 + \text{H}_2 \end{aligned}$$


सिखाना सारणी:-

| क्र.सं. | व्यास (I) (μA में) | ताप $T(^{\circ}C)$ | ताप $T(K)$ में | $1000/T$ | $\log_{10} I$ |
|---------|-----------------------------|--------------------|----------------|----------|---------------|
| 1. | 73 μA | 55 $^{\circ}C$ | 328K | 3.04 | 1.86 |
| 2. | 50 μA | 50 $^{\circ}C$ | 323K | 3.09 | 1.69 |
| 3. | 34 μA | 45 $^{\circ}C$ | 318K | 3.14 | 1.53 |
| 4. | 20 μA | 40 $^{\circ}C$ | 313K | 3.19 | 1.30 |
| 5. | 15 μA | 35 $^{\circ}C$ | 308K | 3.24 | 1.17 |

परिणाम $\rightarrow \log_{10} I$ तथा $1000/T$ के बीच साफ सख्त रेखा में प्राप्त होता है। बैण्ड मैक्सवेल $\Delta E \approx 0.30 eV$ प्राप्त हुआ।

सावधानियाँ \rightarrow ① संघि डायोड में एक सीमा से अधिक उत्क्रम वायस नहीं बढ़ाना चाहिए। अन्यथा संघि डायोड में व जेनर भोजन की संभावना होती है।

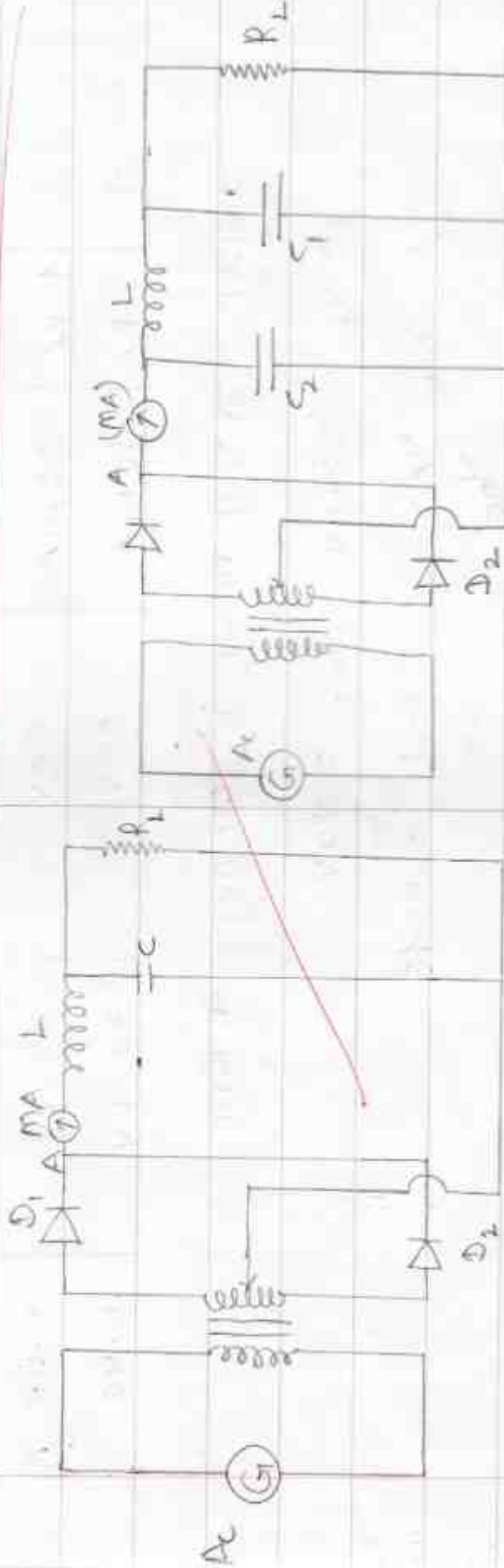
② सब के ठण्डे होने की पर हम ही नहीं चाहिये तथा किसी
संघि इयोंड का तप सब के वास्तविक तप के बराबर है।



2) उपकरण \rightarrow

ट्रांसफॉर्मर, सट P-N डायोड, फिल्टरबारा, मिलीमीटर वोल्टमीटर, प्रतिरोध, सेरकप तन्त्रा संघारित्र आदि।

सिखत, अभिज्ञा गुणांक = निर्गत में प्राप्त प्रत्यावर्त वोल्ट की मात्रा निर्गत में प्राप्त फिल्टरी वोल्ट की मात्रा



L प्रकार के फिल्टर सहित

फिल्टरी

x प्रकार के फिल्टर सहित फिल्टरी

प्रेक्षण सारणी

(A) बिना फिल्टर के वोल्टेज :-

| क्र.सं. | लोड | लोड में वोल्टेज | निर्गम वोल्टेज | निर्गम प्रत्यावर्ती वोल्टेज V_{ac} | क्रियता गुणोक्त (r) |
|---------|--------------|-----------------|----------------|--------------------------------------|---------------------|
| 1. | 1 k Ω | 80mA | 80V | 38.9V | 0.48 |
| 2. | 2 k Ω | 28mA | 80V | 37.3V | 0.46 |
| 3. | 4 k Ω | 22mA | 80V | 37.1V | 0.46 |
| 4. | 5 k Ω | 16mA | 80V | 36.9V | 0.46 |

गणना :- (A) बिना फिल्टर के वोल्टेज के लिये -

$$\textcircled{1} V_{AC} = 38.9V, V_{DC} = 80V$$

$$\therefore r = \frac{V_{AC}}{V_{DC}} = \frac{38.9}{80} = 0.48$$

~~સાધન~~ સત્તર

$$\textcircled{2} V_{AC} = 37.3V, \quad V_{DC} = 80V$$

$$\therefore r = \frac{V_{AC}}{V_{DC}} = \frac{37.3}{80} = 0.46$$

$$\textcircled{3} V_{AC} = 37.14V, \quad V_{DC} = 80V$$

$$\therefore r = \frac{V_{AC}}{V_{DC}} = \frac{37.1}{80} = 0.46$$

$$\textcircled{4} V_{AC} = 36.9V, \quad V_{DC} = 80V$$

$$\therefore r = \frac{V_{AC}}{V_{DC}} = \frac{36.9}{80} = 0.46$$

અતઃ માધ્ય અભિગ્ન ગુણક

$$\text{અથ } \frac{0.46 + 0.46 + 0.46 + 0.46}{4}$$



$$\eta = 0.46 \text{ (मात्रकहीन)}$$

⑧ 1. सकार के फिल्टर सहित दिक्कारी के लिए

| क्र.सं. | लोड R_L | लोड दिये I_{dc} द्वारा | निर्गम दिये V_{dc} वोल्टता | निर्गम प्रत्यावर्त V_{dc} वोल्टता | क्रमिडा गुणांक (र) |
|---------|---------------|--------------------------|------------------------------|-------------------------------------|--------------------|
| 1. | 1 k Ω | 62 mA | 60V | 0.30V | 0.005 |
| 2 | 2 k Ω | 24 mA | 70V | 0.23V | 0.003 |
| 3. | 4 k Ω | 16 mA | 75V | 0.21V | 0.002 |
| 4 | 5 k Ω | 16 mA | 80V | 0.18V | 0.002 |
| 5 | 10 k Ω | 50 mA | 80V | 0.14V | 0.001 |

गणना (i) $V_{Ac} = 0.30V$, $V_{dc} = 60V$

$$\Rightarrow \eta = \frac{V_{Ac}}{V_{dc}} = \frac{0.30}{60} = 0.005$$

(i) $V_{Ac} = 0.23V$, $V_{Dc} = 70V$

$$\alpha = \frac{V_{Ac}}{V_{Dc}} = \frac{0.23}{70} = 0.003$$

(ii) $V_{Ac} = 0.21V$, $V_{Dc} = 75V$

$$\Rightarrow \alpha = \frac{V_{Ac}}{V_{Dc}} = \frac{0.21}{75} = 0.002$$

(iii) $V_{Ac} = 0.18V$, $V_{Dc} = 80V$

$$\Rightarrow \alpha = \frac{V_{Ac}}{V_{Dc}} = \frac{0.18}{80} = 0.002$$

(iv) $V_{Ac} = 0.14V$, $V_{Dc} = 80V$

$$\alpha = \frac{V_{Ac}}{V_{Dc}} = \frac{0.14}{80} = 0.001$$



अतः माध्य अभिज गुणोत्

$$x = 0.005 + 0.003 + 0.002 + 0.002 + 0.001$$

5

$$= \frac{0.013}{5} = 0.0026 \approx 0.002$$

र- प्रकार के फिल्टर सहित दिशारी के लिए :-

©

| क्रम | लोड R_L | लोड में दिये धारा (mA) | निर्गत फिल्टरवोल्ट (V _{dc}) | निर्गत प्रत्यावर्त वोल्ट (V _{ac}) | अभिजा चुणोत् (x) |
|------|---------------|---------------------------|---------------------------------------|--|---------------------|
| 1. | 1 k Ω | 90 mA | 90 V | 0 V | 0 |
| 2. | 2 k Ω | 36 mA | 110 V | 0 V | 0 |
| 3. | 3 k Ω | 23 mA | 115 V | 0 V | 0 |
| 4. | 5 k Ω | 12 mA | 120 V | 0 V | 0 |
| 5. | 10 k Ω | 7 mA | 125 V | 0 V | 0 |

अतः माध्य

③ L-संकार के फिल्टर सहित विद्युतारी के लिये

(i) $V_{AC} = 0V$, $V_{DC} = 90V$, $\alpha = \frac{0}{90} = 0$

(ii) $V_{AC} = 0V$, $V_{DC} = 110V$, $\alpha = \frac{0}{110} = 0$

(iii) $V_{AC} = 0V$, $V_{DC} = 115V$, $\alpha = \frac{0}{115} = 0$

(iv) $V_{AC} = 0V$, $V_{DC} = 120V$, $\alpha = \frac{0}{120} = 0$

(v) $V_{AC} = 0V$, $V_{DC} = 125V$, $\alpha = \frac{0}{125} = 0$

अतः माध्यम-कर्मिता गुणांक $\alpha = 0$

परिणामतः ① बिना फिल्टर के विद्युतारी का कर्मिता गुणांक $\alpha = 0.48$

② L-संकार के फिल्टर सहित $\alpha = 0.002$

3) सरकार के फिल्टर सहित कमिटी गठित कर 20

मातृदानियोग 1) द्राक्षफार्मर के रमिनलों की हाथ से नदी घूना चाहिए

2) संघारित्र की AC मेन्स से जोड़ने से पहले सौर संयोजनों का परीक्षण कर लेना चाहिए।

3) डायोड, संघारित्र, प्रतिरोध, प्रेरित्व उचित पर्याप्त के होने चाहिए अन्यथा जल जाने का डर लगता है।

गुण



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S. No. : 2019-

076881

UNIVERSITY OF KOTA, KOTA

(PRACTICAL EXAMINATION ANSWER - BOOK)

(TO BE FILLED IN BY THE CANDIDATE)

Name of Examination Bsc 5th year 1st Practical Exam. 2019-20 Subject PhysicsCandidate's Name Akash Mahawadi Roll No. 127672Father's Name Ramkishori Mahawadi Enrollment No. /Date Batch 6373B

Marks Awarded

Category: Regular / Ex / Non - Col. Regular

| Exercise / Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Total Marks in Figures | Total Marks in Words |
|---------------------|----|----|----|----|---|---|---|---|---|------------------------|----------------------|
| Marks | 19 | 19 | 14 | 15 | | | | | | 67 | sixty seven |

Name & Signature of Examiners 1. 2.

A₂ → H_2SO_4 ਜੀਨ

A₅ → H_2SO_4 ਜੀਨ



(A6)

उद्देश्य:-

EXERCISE

उपकलन:-

सेवकसन सेतु से कुडली के प्रेरकत्व का मापन करना
पोस्टऑफिस बागम, असात प्रेरकत्व वाली कुडली, परिवर्ती
संघाटिज अल्प आयुति दीलित, हुडकोन सहित चाराभापी।

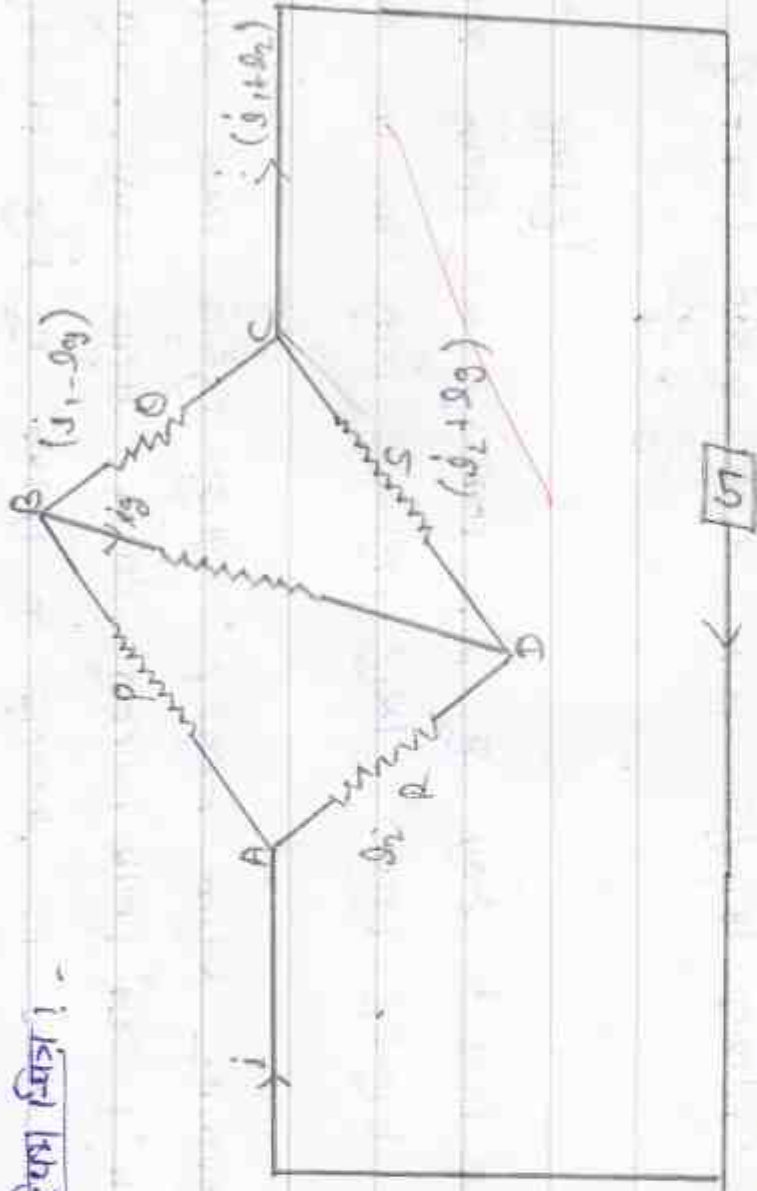
सिद्धान्त:- जब सण्डमान सेतु संकुलित होता है, अर्थात् हुडकोन से अंगन
आवाज सुनाई देती है तथा सेतु के बिन्दु द तथा ऊपर बिजल
समान होता है।

$$\frac{P}{Q} = \frac{R}{S}$$

तथा $L = CR (R + CR)$ जहाँ $P = R$ यहाँ प्रहरोह P, Q, R, S पोस्ट

ऑफिस की गुणाओं के प्रहरोह है। प्रेरकत्व कुडली का प्रेरकत्व है।
उ संघाटिज की धारिता तथा उ संघाटिज के शीकीकन में
परिवर्ती प्रहरोह है।

परिपथ चित्र :-



| क्र.सं. | प्रतिरोध (R) | | प्रतिरोध (R) | | K.O | K.O (R1+R2) |
|---------|--------------|--------|--------------|--------|-----|-------------|
| | (R1) | (R2) | (R1) | (R2) | | |
| 1. | 1000 Ω | 1000 Ω | 1000 Ω | 1000 Ω | 7.5 | 124 |
| 2. | 1000 Ω | 1000 Ω | 1000 Ω | 1000 Ω | 7.4 | 158 |
| 3. | 1000 Ω | 1000 Ω | 1000 Ω | 1000 Ω | 5.0 | 165 |
| 4. | 1000 Ω | 1000 Ω | 1000 Ω | 1000 Ω | 2.4 | 130 |
| 5. | 1000 Ω | 1000 Ω | 1000 Ω | 1000 Ω | 1.8 | 15 |

Prob 1:

$$p = 1000 \Omega, Q_2 = 1000 \Omega, R = 1000 \Omega$$

$$\textcircled{1} C = 0.0009 \mu\text{F} = 0.0009 \times 10^{-6} \text{F}, \tau = 7.5 \times 10^{-3} \text{s}$$

$$C_1 = CR (0.125)$$

$$C_1 = 0.0009 \times 10^{-6} \times 10^3 (1000 + 2 \times 7.5 \times 10^3)$$

$$C_1 = 0.0009 \times 10^{-3} (1000 + 15000)$$

$$C_1 = 194 \times 10^{-3} \text{mH}$$

$$C_1 = 194 \text{ mH}$$

ii

$$C = 0.01 \mu\text{F} = 0.01 \times 10^{-6} \text{F}, \tau = 7.4 \times 10^{-3} \text{s}$$

$$C_2 = 0.01 \times 10^{-6} \times 10^3 (10^3 + 2 \times 7.4 \times 10^3)$$

$$C_2 = 0.01 \times 10^{-3} (15.8 \times 10^3)$$

$$C_2 = 0.01 \times 15.8 = 15.8 \times 10^{-3} \text{H}$$

$$C_2 = 15.8 \text{ mH}$$

$$(11) \quad C = 0.015 \mu F = 0.015 \times 10^{-6} F, \quad \alpha = 5 \times 10^3 \Omega$$

$$L_3 = 0.015 \times 10^{-6} \times 10^3 [10^3 + 2 \times 5 \times 10^3]$$

$$L_3 = 0.015 \times 10^{-3} [1000 + 10 \times 10^3]$$

$$L_3 = 0.165 H$$

$$L_3 = 165 mH$$

$$(12) \quad C = 0.022 \mu F = 0.022 \times 10^{-6} F, \quad \alpha = 2.4 \times 10^3 \Omega$$

$$L_4 = 0.022 \times 10^{-6} \times 10^3 [10^3 + 2 \times 2.4 \times 10^3]$$

$$L_4 = 0.022 \times 10^{-3} [1000 + 4800]$$

$$L_4 = 0.022 \times 5.8 = 130 mH$$

$$(13) \quad C = 0.033 \mu F = 0.033 \times 10^{-6} F, \quad \alpha = 1.8 \times 10^3 \Omega$$

$$L_5 = 0.033 \times 10^{-6} \times 10^3 [10^3 + 2 \times 1.8 \times 10^3]$$

$$L_5 = 0.033 \times 10^{-3} [1000 + 3.6 \times 10^3]$$

$$L_5 = 0.033 \times 4.6$$

$$L_5 = 152 mH$$

अतः माध्य प्रत्यक्ष माध्य = $\frac{57 + 77 + 57 + 27 + 7}{5}$

$$\frac{251 + 031 + 591 + 851 + 41}{5} = 7$$

$$\frac{57 + 77}{2} = 7$$

$$M_{0.5} = 7 + 0.5(8 - 7) = 7.5$$

$$[M_{0.5} = 7.5]$$

परिणाम :- माध्य प्रत्यक्ष माध्य = 7.5

- (i) प्रयोग के लिए प्राप्ति के अंतर के माध्य को माध्य प्रत्यक्ष माध्य कहते हैं।
- (ii) प्रयोग के लिए प्राप्ति के अंतर के माध्य को माध्य प्रत्यक्ष माध्य कहते हैं।
- (iii) प्रयोग के लिए प्राप्ति के अंतर के माध्य को माध्य प्रत्यक्ष माध्य कहते हैं।

19

(A5)
Exam-8

उद्देश्य - उद्यमनिष्ठ उत्सर्जित सेटपण में APN राजस्तर के अमिलसाधन
का आकलन करना।

उपभोग - रक्त APN राजस्तर, वोल्यूमीटर, मिली-अमीटर
द्वारा निपटारा, दो अंशजो, सैदरी आदि।

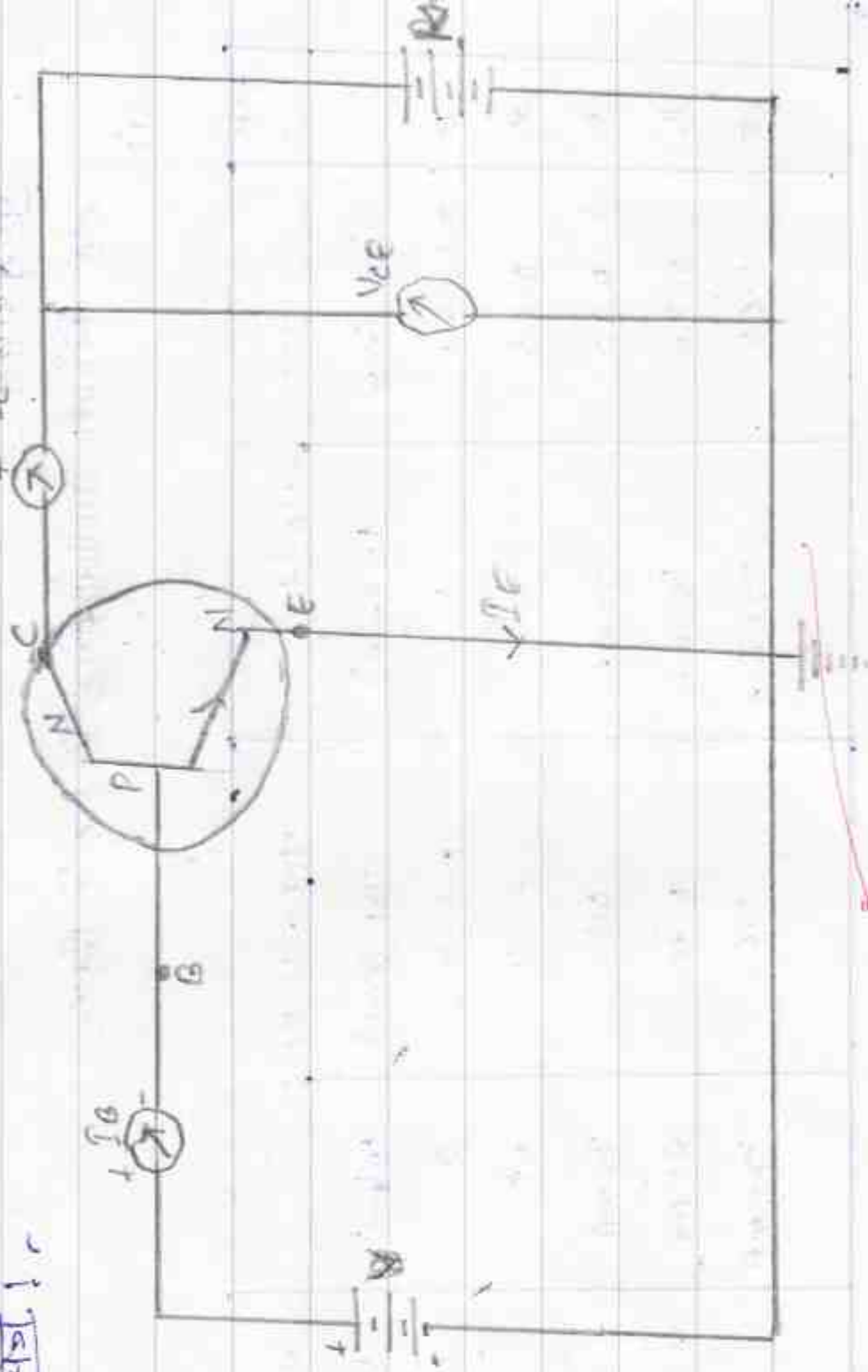
सिद्धान्त:

(1) निवेशी अमिलसाधन युक्त के लिए- इसमें पक्ष को पहला रखकर
APN में परिवर्तन कर दिए का मान सात करते हैं तथा पक्ष
तुल्य के मध्य ब्याज स्थानों हैं। जितने निवेशी अमिलसाधनिक बंध
कहेले

निर्गत अमिलसाधनिक युक्त के लिए-

जिसमें आधार चारों पक्षों द्वारा एक पक्ष निर्गत वोल्यूमीटर
में परिवर्तन कर सातहक चारों पक्ष का मान सात करते हैं
और फिर पक्ष तथा पक्ष के मध्य अमिलसाधनिक पक्ष
तथा पक्ष के मध्य अमिलसाधनिक निर्गत अमिलसाधनिक युक्त करते हैं

परिपथ चित्र :-



चित्र :- NPN अभ्यन्तरिक घटक प्रणालि

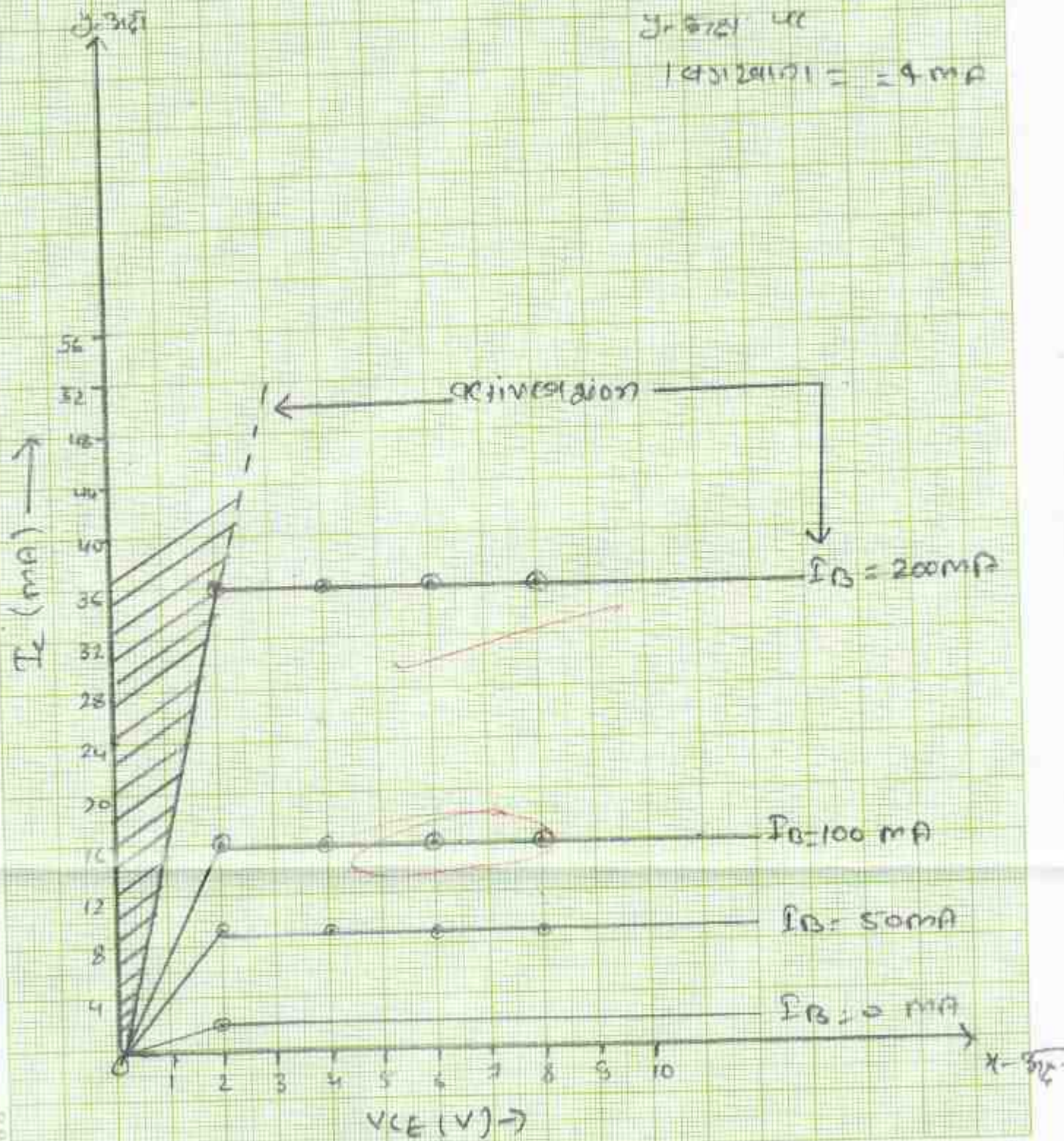
प्रयोग सारणी -

खन निवेशी अम्लिक्षाणिक के छठ के लिए-

(1)

| क्र.सं. | $V_{CE} = 10 \text{ Volt}$ | | $V_{CE} = 4 \text{ Volt}$ | | $V_{CE} = 2 \text{ Volt}$ | |
|---------|----------------------------|--------------------|---------------------------|--------------------|---------------------------|--------------------|
| | $I_{BE} \text{ (mA)}$ | $I_B \text{ (mA)}$ | $V_{BE} \text{ (mV)}$ | $I_B \text{ (mA)}$ | $V_{BE} \text{ (mV)}$ | $I_B \text{ (mA)}$ |
| 1. | 0.1 - 0.4 | 0 | 0.1 - 0.5 | 0 | 0.1 - 0.5 | 0 |
| 2. | 0.48 | 0+ | 0.54 | 0+ | 0 | 0+ |
| 3. | 0.60 | 50mA | 0.60 | 35mA | 0.60 | 18mA |
| 4. | 0.70 | 150mA | 0.70 | 85mA | 0.70 | 65mA |
| 5. | 0.80 | 220mA | 0.80 | 175mA | 0.80 | 175mA |

બાઈપોલર
 ટ્રાન્ઝિસ્ટર $V_{BE(on)} = 1V$
 ડ્રેન કરેલ વાલ
 $I_{B(on)} = 9mA$



નિર્મિત અભિલક્ષણિક ($V_{CE} - I_C$ ગ્રાફ)

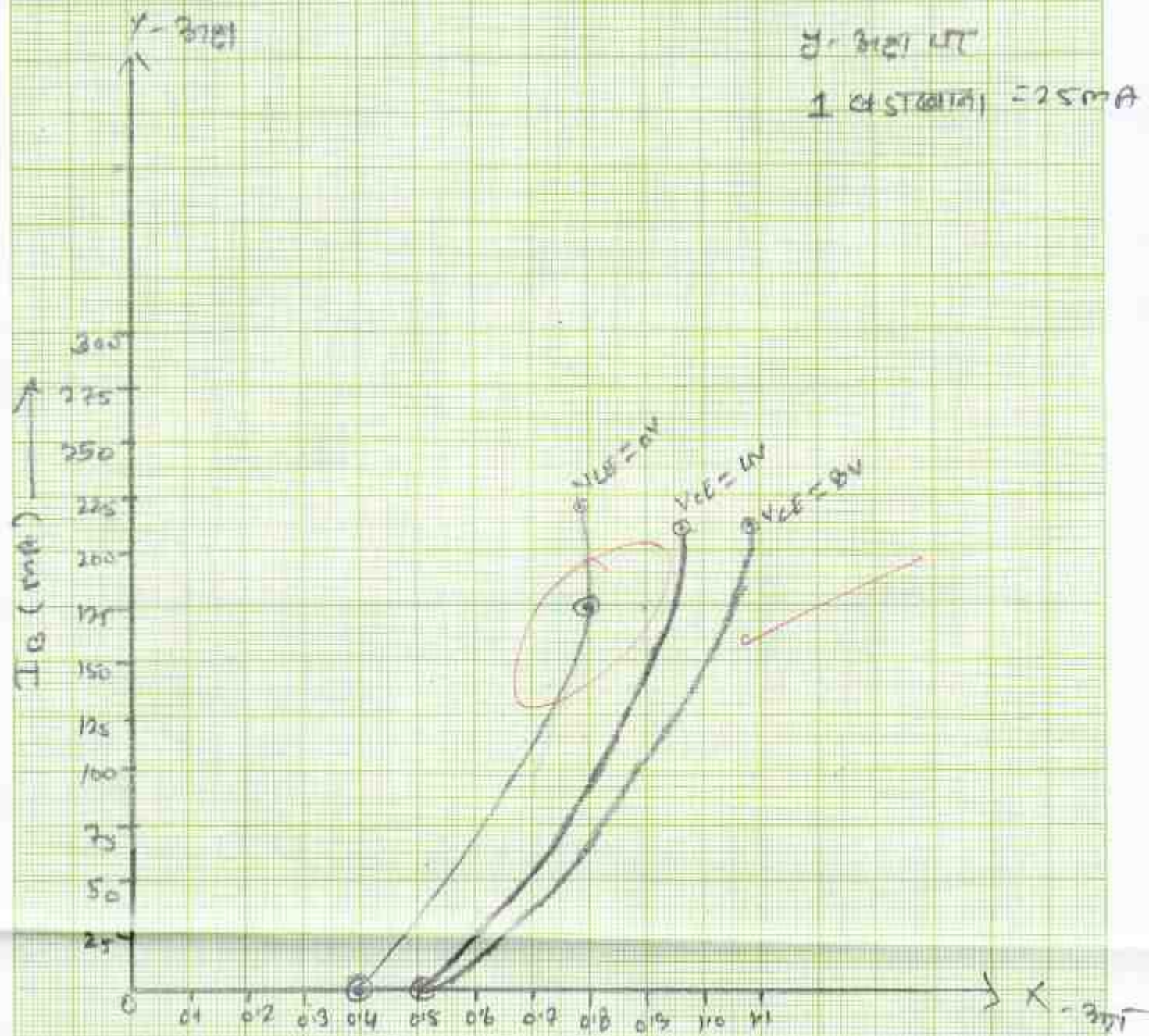
કોષ્ટક -

૪- ૩૧૮૧૦૮

૧. બેઝ વોલ્ટેજ = ૦.૧૫૫ V

૨. ૩૧૮૧ ૫T

૧. બેઝ વોલ્ટેજ = ૦.૧૫૫ V



$V_{BE} \rightarrow$

પ્રિવોલ્ટેજ બેઝ વોલ્ટેજ ($V_{BE} = I_B$)



નિમ્ન અભિલાશનિત ઇમો કે નિર પેલાન સારની

(૨)

| ક્રમ. | $I_B = 50 \mu A$ | | $I_B = 100 \mu A$ | | $I_B = 200 \mu A$ | |
|-------|------------------|------------|-------------------|------------|-------------------|------------|
| | $V_{CE} (V)$ | $I_C (mA)$ | $V_{CE} (V)$ | $I_C (mA)$ | $V_{CE} (V)$ | $I_C (mA)$ |
| 1. | 0V | 0V | 0V | 0V | 0V | 0V |
| 2. | 2V | 3mA | 2V | 10 mA | 2V | 36mA |
| 3. | 4V | 3mA | 4V | 16 mA | 4V | 36 mA |
| 4. | 6V | 3mA | 6V | 16 mA | 6V | 36mA |
| 5. | 8V | 3mA | 8V | 16mA | 8V | 36mA |



परिणाम :- निर्वैधी आर्थिक निर्माण एवं एवं निर्गमिताधिक
 को के प्रिजो के अनुप जाण हुए।

आवधानियो :-

- 1) हांजिस्ट के अनुमत् वाल्टस्थो को दयान में रखकर उलमजक एवं संग्रह पर वीलता लगानी चाहिए।
- 2) सभी नियोजन की वरद से कसे हुए होने चाहिए।
- 3) हांजिस्ट को जमी होने पर विद्युत पत्थि की पुनः जानि करनी चाहिए।
- 4) हांजिस्ट को पत्थि से जोड़े सम्य समसे पदते आधा को जोडा चाहिए तथा नियोजन दादा सम्य भी आधा को समने पदले जोडा चाहिए।