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| Discipline :-  **CIVIL ENGG.** | Semester:-  **6th** | Name of the Teaching Faculty:-  P.B. DEEPTI RANJAN |
| Subject:-  **ENVIRONMENTAL STUDIES** | No of Days/per Week Class Allotted :-**5** | Semester From:- 02 .01.**2019** To:- 15.04.2019  No of Weeks:- **14** |
| **Week** | **Class Day** | **Theory/ Practical Topics** |
| 1st | 1st | Definition, scope of Environmental studies |
| 2nd | Multidisciplinary nature of environment |
| 3rd | Importance |
| 4th | Need for public awareness |
| 5th | Renewable and Non-renewable resources |
| 2nd | 1 | Natural resources and associated problems :  Forest resources: Use and over-exploitation, deforestation, case studies, |
| 2nd | Timber extraction mining, dams and their effects on forests and tribal people. |
| 3rd | Water resources: Use and over-utilization of surface and ground water, |
| 4th | floods, drought, conflicts over water, dam’s benefits and problems. |
| 5th | Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources. |
| 3rd | 1th | Food Resources: World food problems, changes caused by agriculture and over grazing, |
| 2nd | effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity, |
| 3rd | Energy Resources: Growing energy need, renewable and non-renewable energy sources, use of alternate energy sources, case studies. |
| 4th | Land Resources: Land as a resource, land degradation, man induces land slides, soil erosion, and desertification. |
| 5th | 1. Role of individual in conservation of natural resources. |
| 4th | 1st | 1. Equitable use of resources for sustainable life styles. |
| 2nd | Concept of an eco system. |
| 3rd | Structure and function of an eco system |
| 4th | Producers, consumers, decomposers |
| 5th | Energy flow in the eco systems |
| 5th | 1st | Ecological succession |
| 2nd | Food chains |
| 3rd | food webs |
| 4th | ecological pyramids |
| 6th | 1st | Introduction, types, characteristic features of the following eco system |
| 2nd | structure and function of the following eco system |
| 3rd | Forest ecosystem |
| 4th | Aquatic eco systems (ponds, streams, lakes, rivers, oceans, estuaries). |
| 7th | 1st | Introduction-Definition: genetics, species and ecosystem diversity. |
| 2nd | Biogeographically classification of India |
| 3rd | Value of biodiversity: consumptive use |
| 4th | Productive use, social ethical |
| 5th | Aesthetic and option values |
| 8th | 1st | Biodiversity at global, national and local level. |
| 2nd | Threats to biodiversity: Habitats loss, |
| 3rd | Poaching of wild life, man wildlife conflicts. |
| 4th | Definition Causes of Environmental Pollution |
| 5th | Effects of Environmental Pollution |
| 9th | 1st | control measures of Environmental Pollution |
| 2nd | 1. Air pollution. |
| 3rd | 1. Water pollution. 2. Soil pollution |
| 10th | 1st | 1. Marine pollution 2. Noise pollution. |
| 2nd | 1. Thermal pollution 2. Nuclear hazards. |
| 3rd | Solid waste Management Causes |
| 4th | Solid waste Management effects |
| 11th | 1st | Solid waste Management control measures of urban wastes  Solid waste Management control measures of industrial wastes |
| 2nd | Role of an individual in prevention of pollution  Pollution case studies |
| 3rd | Disaster management: Floods, earth quake  Disaster management : cyclone and landslides |
| 4th | Disaster management: Floods, earth quake |
| 5th | Form unsustainable to sustainable development. |
| 12th | 1st | Urban problems related to energy.  Water conservation, rain water harvesting  water shed management |
| 2nd | Resettlement and rehabilitation of people; its problems and concern  Environmental ethics: issue and possible solutions |
| 3rd | Climate change, global warming  Nuclear accidents and holocaust, case studies  Nuclear accidents and holocaust, case studies |
| 4th | Air (prevention and control of pollution) Act.  Water (prevention and control of pollution) Act. Public awareness  Population growth and variation among nations. |
| 13th | 1st | Population explosion- family welfare program  Environment and human health: Environmental health, Climate health*,* Infectious diseases |
| 2nd | Environment and human health: Water-related diseases, Risk due to chemical in food |
| 3rd | Human rights |
| 4th | Value education: environmental values, valuing nature, valuing cultures, social justice |
| 14th | 1st | Value education: Human heritage, Equitable use of resources, common property resources, ecological degradation |
| 2nd | Role of information technology in environment and human health.  . |
| 3rd | Role of information technology in environment and human health. |
| 4th | Previous year question answer discussion |

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| Discipline :-  **CIVIL ENGG** | Semester:-  **3rd** | Name of the Teaching Faculty:-  **P B DEEPTI RANJAN** |
| Subject:-  **CIVIL ENGG. MATERIAL** | No of Days/per Week Class Allotted :-  **4** | Semester From:- **16th July, 2018** To:- **15th Nov, 2018**  No of Weeks:- **17** |
| **Week** | **Class Day** | **Theory/ Practical Topics** |
| 1st | 1st | Introduction to civil engg material |
| 2nd | **STONE** |
| 3rd | Classification of rock |
| 4th | Uses of stone & Natural bed of stone, |
| 2nd | 1st | Qualities of good building stone |
| 2nd | Stone quarrying – machines for quarrying, dressing of stone |
| 3rd | Characteristics of different types of stone and their uses |
| 4th | **BRICKS** |
| 3rd | 1st | Brick earth – its composition & selection |
| 2nd | Brick making -preparation of brick : moulding |
| 3rd | Brick making- drying, burning in kilns |
| 4th | Classification of bricks, size of traditional and modular bricks, |
| 4th | 1st | Qualities of good building bricks |
| 2nd | Uses of brick bats and surkis |
| 3rd | Uses of hollow bricks |
| 4th | **CLAY PRODUCTS AND REFRACTORY MATERIALS** |
| 5th | 1st | Definition and classification of refractory materials |
| 2nd | Properties and uses of refractory materials: |
| 3rd | Tiles, terracotta, |
| 4th | Porcelain glazing |
| 6th | 1st | **CEMENT:** |
| 2nd | Types of cements |
| 3rd | Properties of cements |
| 4th | Testing of quality of cement |
| 7th | 1st | Manufacture of cement |
| 2nd | **SAND GRAVEL, MORRUM AND FLY ASH :** |
| 3rd | Sources and classification of sand & Bulking factor and fineness of sand |
| 4th | Qualities and grading of sand for plaster and for masonry work as per BIS |
| 8th | 1st | Specifications (IS : 1542,2116,383) |
| 2nd | Use of gravel, morrum and fly ash as different building material |
| 3rd | **MORTAR AND CONCRETE:** |
| 4th | Composition and properties of ingredients in both cement & lime mortar and concrete |
| 9th | 1st | Properties and uses of cement & lime mortar and concrete |
| 2nd | Grading of aggregates in concrete & Water – cement ratio |
| 3rd | Concreting – mechanical properties of aggregates, mixing of ingredients, placing, compacting and curing of concrete. |
| 4th | Introduction to R.C.C. and Pre-stressed concrete |
| 10th | 1st | **TIMBER:** |
| 2nd | Classification and structures of timber, Defects in timber |
| 3rd | Disease and decay of timber |
| 4th | Seasoning and preservation of timber |
| 11th | 1st | Manufacturing and uses of plywood |
| 2nd | Other building materials as substitutes to timber |
| 3rd | **PAINT, VARNISH AND DISTEMPER**: |
| 4th | Purpose of painting a surface & Characteristics of ideal paint and varnish |
| 12th | 1st | Ingredients of paint and varnish |
| 2nd | Process of painting and varnishing, Repainting of old surfaces |
| 3rd | Purpose of applying distemper, properties, ingredients, process of distempering |
| 13th | 1st | Application of white washing and colour washing |
| 2nd | **IRON AND STEEL:** |
| 3rd | Uses of cast iron, wrought iron, mild steel and tor steel |
| 14th | 1st | Classification and uses of steel |
| 2nd | **BITUMINOUS MATERIAL:** |
| 3rd | Types of bituminous material: tar, bitumen and asphalt, properties and uses |
| 4th | Different types of asphalt and tar and their uses |
| 15th | 1st | **PLASTICS, HEAT PROOFING AND ACOUSTIC MATERIALS:** |
| 2nd | Plastic and its uses as building material |
| 3rd | Materials used for heat proofing |
| 4th | Materials used for acoustics and their properties |
| 16th | 1st | **DOUBT CLEARING CLASS AND REVISION** |
| 2nd |
| 3rd |
| 4th |
| 17th | 1st | **PREVIOUS FIVE YEAR QUESTION PAPERS DISCUSSION** |
| 2nd |
| 3rd |
| 4th |

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| Discipline :- | Semester:- | Name of the Teaching Faculty:- |
| Subject:-  Circuit theory Lab | No of Days/per Week Class Allotted :-4 | Semester From:- **16th July, 2018** To:- **15th Nov, 2018**  No of Weeks:- **17** |
| **Week** | **Class Day** | **Practical (Group 1)** |
| 1st | 1st | * + Verification of KCL and KVL. |
| 2nd |  |
| 2nd | 1st | * + Verification of Super position theorem |
| 2nd |  |
| 3nd | 1st | * + Verification of Thieving’s Theorem |
| 2nd |  |
| 4sh | 1st | * + Verification of Norton’s Theorem |
| 2nd |  |
| 5sh | 1st | * + Verification of Milliman’s Theorem |
| 6sh | 2nd |  |
| 7sh | 1st | * + Verification of Maximum power transfer Theorem |
| 2nd |  |
| 8sh | 1st | * + Determine resonant frequency of series R-L-C circuit |
| 2nd |  |
| 9sh | 1st | Study of High pass filter & determination of cut-off frequency |
| 10sh | 2nd |  |
| 1st | Study of low pass filter & determination of cut-off frequency |
| 11sh | 2nd |  |
| 1st | Study of Band pass filter and Band Elimination filter & determination of its cut-off Frequency |
| 12sh | 2nd |  |
| 1st | Analyze the charging and discharging of an R-C & R-L circuit with oscilloscope and Compute the time constant from the tabulated data and determine the rise time graphically. |
| 13sh | 2nd |  |
| 14sh | 1st | Determination of parameters of ‘Two port Network’ |
| 15sh |  |  |
| Discipline :- | Semester:- | Name of the Teaching Faculty:- |
| Subject:-  Circuit theory Lab | No of Days/per Week Class Allotted :-4 | Semester From:- **16th July, 2018** To:- **15th Nov, 2018**  No of Weeks:- **17** |
| **Week** | **Class Day** | **Practical (Group 2)** |
|  |  | * + Verification of KCL and KVL. |
|  |  |  |
|  |  | * + Verification of Super position theorem |
|  |  |  |
|  |  | * + Verification of Thieving’s Theorem |
|  |  |  |
|  |  | * + Verification of Norton’s Theorem |
|  |  |  |
|  |  | * + Verification of Milliman’s Theorem |
|  |  |  |
|  |  | * + Verification of Maximum power transfer Theorem |
|  |  |  |
|  |  | * + Determine resonant frequency of series R-L-C circuit |
|  |  |  |
|  |  | Study of High pass filter & determination of cut-off frequency |
|  |  |  |
|  |  | Study of low pass filter & determination of cut-off frequency |
|  |  |  |
|  |  | Study of Band pass filter and Band Elimination filter & determination of its cut-off Frequency |
|  |  |  |
|  |  | Analyze the charging and discharging of an R-C & R-L circuit with oscilloscope and Compute the time constant from the tabulated data and determine the rise time graphically. |
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|  |  | Determination of parameters of ‘Two port Network’ |
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| Discipline :- | Semester:- | Name of the Teaching Faculty:- |
| Subject:- | No of Days/per Week Class Allotted :- | Semester From:- **16th July, 2018** To:- **15th Nov, 2018**  No of Weeks:- **18** |
| **Week** | **Class Day** | **Theory/ Practical Topics** |
|  |  | 3 point D. C. motor starter. |
|  |  | 4 point D.C. motor starter. |
|  |  | DOL starter |
|  |  | Star delta starter. |
|  |  | Auto Transformer Starter. |
|  |  | Rotor resistance starter. |
|  |  | Control of 2 lamps from 5 positions. |
|  |  | Pole with pole shoes |
|  |  | Commutator |
|  |  | Armature |
|  |  | D. C. armature winding (a) Simple lap winding |
|  |  | (b) Simple wave winding. |
|  |  | Alternator Stator without winding. |
|  |  | Alternator Rotor for salient pole type. |
|  |  | Alternator Rotor for smooth cylindrical type. |
|  |  | Stepped core type. |
|  |  | Plane shell type |
|  |  | Earthing installation |
|  |  | Double pole structure for LT and HT distribution lines. |
|  |  | Single line diagram of 33/11kV distribution substation. |
|  |  | Single line diagram of a 11/0.4 kV distribution substation |
|  |  | Stator |
|  |  | Squirrel cage rotor. |
|  |  | Phase wound type rotor. |
|  |  | Draw Electrical symbols (take Print out) |
|  |  | Draw D.C. m/c parts (take print out) |
|  |  | Draw A. C. m/c parts (take print out) |
|  |  | Draw A. C. & D. C. winding diagrams (take print out) |
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