BITT POLYTECHNIC
Getlatu, Ranchi- 835217

BITT-P/NOTICE/2024 – 25/ *LL OO6*

Date: 27.12.2024

NOTICE

Subject: Schedule of 1st Assignment Submission for Diploma 3rd Semester Students (Session: 2023 – 2026)

It is hereby informed to all Diploma 3rd Semester (Session: 2023 – 2026) Students that submit their 1st assignment in given schedule & format. Assignment questions are attached below.

Date of Assignment Submission: 06.01.2025

Format of Assignment: Write in A4 Paper and attached with Stick file.

Principal
BITT Polytechnic
Getlatu, Ranchi

Principal
BITT Polytechnic

Copy to,
1. Hon'ble Chairman, BITTGOI
2. Principal
3. Assistant Registrar
4. All HoDs
5. Controller of Examinations
6. Accounts Department
7. Workshops
8. Library
9. Notice Board
10. Website

Assignment Questions

Branch: Civil Engineering
Subject: Engineering Mechanics and Strength of Materials
Subject Code: CIV301

1. Write any six mechanical properties of metal.
2. Define Hooke's Law. Write the types of stresses and strain.
3. What is Poisson's Ratio? Derive Modulus of Elasticity.
4. A brass bar, having cross sectional area of 1000 mm^2, is subjected to axial forces shown in fig. Find Total Elongation of bar. Take E = 1.05 × 10^5 N/mm^2
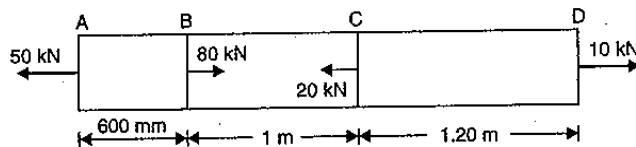
5. A cantilever of length 2.0 m carries a uniformly distributed load of 1kN/m run over length of 1.5 m from the free end. Draw the shear force and bending moment diagram for the cantilever.
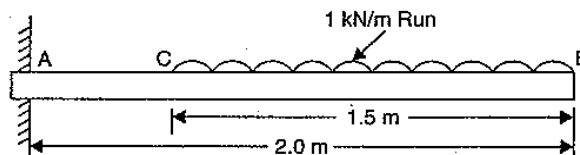
Branch: Civil Engineering
Subject: Modern Surveying
Subject Code: CIV302

1. What is a contour? Write Importance of contour maps and its Characteristics.
2. What is the method of plotting contour? Write Factors affecting contour interval.
3. Write component parts of transit theodolite and their functions.
4. List the Applications of different types of theodolites.
5. Write about Theodolite traversing. What is open and closed Traverse?

Branch: Civil Engineering
Subject: Construction Techniques
Subject Code: CIV303

1. Write classification of soils and their suitability for the construction of different structures.
2. Write Method of improving the safe bearing capacity.
3. What is Foundation? Write Purpose and classification of foundation.
4. Write the types of masonry work and their suitability.
5. List the tools and equipments used for site clearance and excavation work.

Branch: Civil Engineering
Subject: Building Drawing using CAD
Subject Code: CIV304

1. What is Building bye Laws? What is the objective of Building bye Laws?
2. Write the function of Local Authority. What is the responsibility of owner?
3. Write applicability and Principles underlying building bye laws.
4. Explain the safety precaution to be followed at site during building construction as per National Building Code.
5. Write about building planning and site selection.

Branch: Computer Science Engineering
Subject: Python Programming
Subject Code: CSE301

1. What is Python and defines all the features of python with suitable example?
2. What is token and how many types of token define with suitable example
3. Write a program to enter any two numbers and exchange its value by each other 1f 1st value is greater than 2nd values otherwise double of them
4. WAP to enter any three number and find largest among them
5. WAP to enter any 4 number fined their sum and average and fine average is even number or odd number

Branch: Computer Science Engineering
Subject: Computer Hardware, Maintenance and Administration
Subject Code: CSE302

1. What are different types of Input-Output (I/O) devices?
2. Explain Motherboard and functional description with diagram.
3. What are difference between RAM and ROM? Write different types of RAM and ROM.
4. What do you mean by E-Waste Management?
5. Explain major causes and prevention of E-Waste.

Branch: Computer Science Engineering
Subject: Computer Networks
Subject Code: CSE303

1. Explain the OSI Model and its layers.
2. Explain the different categories of Networks.
3. What is network topology? Define the Bus, Ring, Star, Mesh and Hybrid topology.
4. What is Transmission Impairment?
5. Write short notes :
   Attenuation, Bandwidth, Lattency, Jitter, Throughput

Branch: Computer Science Engineering
Subject: Database System Concepts and PL/SQL
Subject Code: CSE304

1. What is file? What are the disadvantages of File processing and also write difference between files and DBMS.
2. What are the components of DBMS?
3. Define Entity, attribute, Data, Database.
4. Define DBMS Architecture and its types.
5. Explain Data model and its types

Branch: Electrical Engineering
Subject: Basics of Electrical power System
Subject Code: EEE301

1. **Write construction and working of hydraulic Power Plant.**
2. **Write classification of hydroelectric power plants based on the available head of water.**
3. **Write working of thermal power plant. Advantages and disadvantages of Thermal power plant.**
4. **What is the Environmental Impact of Thermal power plants?**
5. **Write Construction and working of Nuclear power plant.**

Branch: Electrical Engineering
Subject: Transmission and Distribution
Subject Code: EEE302

1. **Represent vectors in Rectangular, Trigonometric and Polar forms.**
2. **Explain active power, reactive power, apparent power and power factor in AC circuit.**
3. **Explain KCL and KVL.**
4. **Explain Thevenin's and Superposition theorem and application of theorems.**
5. **Write various systems for power transmission and distribution.**

Branch: Electrical Engineering
Subject: Switchgear and Protection
**Subject Code:** EEE303

1. **What is the meaning of Switch gear? Write types and essential features of Switchgear.**
2. **List most commonly used Switchgear equipment and Protective Devices for switching and interruption of current.**
3. **Write importance of power system protection and Necessity of Protective Device.**
4. **Write sources of Faults and Types of faults.**
5. **Write harmful Effects of short circuit current.**

Branch: Electrical Engineering
Subject: Analog and Digital Electronics
**Subject Code:** EEE304

1. **What is the classification of passive components?**
2. **Write the types and application of passive components.**
3. **What is Semiconductors? Write the types and characteristics of Semiconductors.**
4. **Explain two types of Extrinsic Semiconductors.**
5. **Explain two types of Intrinsic Semiconductors.**

Branch: Mechanical Engineering
Subject: Mechanics of Materials
Subject Code: MEC301

1. **Write any six mechanical properties of metal.**
2. **Define Hooke's Law. Write the types of stresses and strain.**
3. **What is Poisson's Ratio? Derive Modulus of Elasticity.**
4. **A brass bar, having cross sectional area of 1000 mm^2, is subjected to axial forces shown in fig. Find Total Elongation of bar. Take E = 1.05 × 10^5 N/mm^2**
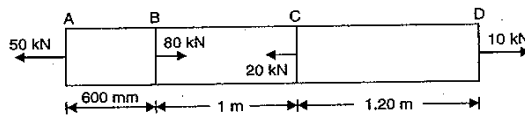
5. **A cantilever of length 2.0 m carries a uniformly distributed load of 1kN/m run over length of 1.5 m from the free end. Draw the shear force and bending moment diagram for the cantilever.**
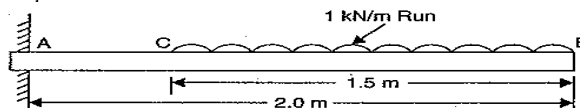
Branch: Mechanical Engineering
Subject: Machine Tool Technology
Subject Code: MEC302

1. **Write the Preventive measures to be taken during Fire and Electrical emergency.**
2. **Write the Theory of metal Removal- Traditional & Non Traditional machining.**
3. **Distiguish between the Single cutting tools and Multi cutting tools.**
4. **Write the Lubricants used in the section and brief about its uses**
5. **What is grinding. Its application and its used.**

Branch: Mechanical Engineering
Subject: Manufacturing Processes
Subject Code: MEC303

1. **What do you mean by foundries and explain the safety Precautions to be taken in foundries.**
2. **What is Pattern the need of a Pattern- Types of Patterns—Solid or Single.**
3. **Write the Prepare a single Piece wooden Pattern considering all allowances.**
4. **Explain Hot and Cold Working Process**
5. **Determination of Production Cost of a given material considering Raw material, Process cost, Overheads and other expenses.**

Branch: Mechanical Engineering
Subject: Fluid Power Engineering
Subject Code: MEC304

1. **Calculate the density, specific weight and weight of one liter of petrol of specific gravity 0.7**
2. **Explain about the types of the fluids.**
3. **The capillary rise in glass tube is not to exceed 0.2mm of water. Determine its minimum size given that surface tension for water in contact with air is 0.0725N/m.**
4. **What is Bernoilli's equations and Derive Bernoulli's equation of motion?**
5. **Calculate the specific weight, density, specific gravity of one liter of liquid which weighs 7N.**

Branch: Electronics & Communication Engineering
Subject: Analog Electronics
Subject Code: ECE301

1. **What are the need and types of unregulated & Regulated?**
2. **What is the selection Criteria of different power Supplies?**
3. **Draw blocks Diagram and working principle of RPS.**
4. **Draw blocks Diagram and working principle of UPS.**
5. **Draw blocks Diagram and working principle of SMPS.**

Branch: Electronics & Communication Engineering
Subject: Logic Design using Verilog
Subject Code: ECE302

1. **Write the importance & need of VLSI?**
2. **Write the importance & need of HDL?**
3. **Write the types of HDL & Modeling.**
4. **Explain about Lexical conventions, comments, keywords, identifiers, strings.**
5. **Explain about Value Set, Wires, Nets, Registers, Vectors, Integers, Real, Time, Parameters, Arrays, and Strings.**

Branch: Electronics & Communication Engineering
Subject: Communication Systems
Subject Code: ECE303

1. **Explain superposition theorem, statement and explanation with an example.**
2. **Explain Maximum Power Transfer theorem statement and explanation with an example.**
3. **Explain Thevenin's theorem, statement and explanation with an example.**
4. **Explain Norton's theorem, statement and explanation with an example.**
5. **Write expression for frequency of resonance.**

Branch: Electronics & Communication Engineering
Subject: Electronic Measurements and Testing Techniques
Subject Code: ECE304

1. **Write the necessity of measurements.**
2. **Explain direct & indirect method of measurement.**
3. **Explain difference classification of error.**
4. **Draw block diagram of generalized electronics measurement system.**
5. **Explain about arithmetic mean, deviation, average deviation, standard deviation, probability of errors and limiting errors.**