

B.TECH PRACTICAL ASSIGNMENTS QUESTIONS
EVEN SEM-20

SEMESTER: 2ND
GROUP-A (CE+ME+CSE)

Paper Name: Chemistry-I (Lab)
Paper Code: BS-CH 291

1. Define alkalinity of water.
2. Write down two acid- base indicators.
3. Draw conductometric titration curve of HCl vs NaOH.
4. What is conductance?
5. Define pH.
6. Draw P^H-metric titration curve of HCl vs NaOH.

Paper Name: Programming for Problem Solving
Paper Code: ES-CS 291

1. Explain with example various loops in C programming and compare among them.
2. What is array? Explain various type of arrays with example.

Paper Name: Engineering Graphics & Design
Paper Code: ES-ME 291

1. Draw a single stroke vertical letter "ENGINEERING DRAWING" in 7:4 ratio with height 28 mm.
2. Draw an inscribed pentagon and hexagon of side 80 mm.
3. Draw an ellipse given major and minor axis as 100 mm and 80 mm any method.

Semester: 2nd
GROUP-B (EE+EEE+ECE)

Paper Name: Physics-I (Lab)
Paper Code: BS-PH 291

1. What is dispersive power of a prism?
2. What is thermocouple?
3. Define photocell.

Paper Name: Programming for Problem Solving
Paper Code: ES-CS 291

1. Explain with example various loops in C programming and compare among them.
2. What is array? Explain various types of arrays with example.

Paper Name: Workshop Practice Lab
Paper Code: ES- ME292

1. To make a wooden pattern which was finished in our session. Sketch & explain – procedure – object – materials used – tools used – operation – precaution.
2. What are the procedures commonly done in bench working and fitting shop. Describe briefly.
3. Making a pattern on metal plate which was finished in our session. Sketch- Bench work- fitting work- objective- experiment procedure

SEMESTER :- 4TH

APPLIED ELECTRONICS AND INSTRUMENTATION
ENGINEERING

Paper Name: - Electrical & Electronic Measurement Lab
Paper Code:-PC-EI-491

- 1.Describes the errors in electrodynamicometer type wattmeter.
2. Explain the difference between Dynamometer type wattmeter and induction type wattmeter.

Paper Name: Microprocessor & Microcontroller
Laboratory
Paper Code: PC-EI-492

1. Explain the Pin diagram of 8085 Microprocessor.
2. Draw and explain the working principle of 8086 Microprocessor.
3. What is TRAP?

Paper Name: Data Structure and Algorithm Lab
Paper Code: CS 491

1. Explain stack, queue and link list with example.
2. What is graph? Write down BFS and DFS for a connected graph with example.

CIVIL ENGINEERING

Paper Name – Fluid Mechanics Lab Paper Code- CE (ES) 491

1. Determination of coefficient of discharge for rectangular and v-notch apparatus.
2. Write the procedure to determination of coefficient of discharge using orifice meter.

Paper Name – Solid Mechanics Lab Paper Code- CE(ES) 492

1. Discuss about the procedure of bending stress on mild steel.
2. Discuss about the test procedure on closely coiled helical spring

Paper Name – Engineering Geology Lab Paper Code- CE(ES) 493

1. Define and state the role of engineering geology in civil engineering.
2. Discuss about apply of different tools to identify rocks and minerals in hand specimen and under microscope.

Paper Name – Surveying And Geomatics Lab Paper Code- CE(PC) 493

1. Discuss about differential Leveling using Dumpy level: Collimation and Rise and Fall methods, Field book.
2. Discuss about the traverse survey by prismatic compass: computation, checks on close traverse and preparation of field book.

Paper Name – Concrete Technology Lab Paper Code- CE(PC) 494

1. Discuss about different workability test.
2. Discuss about consistency test, soundness test with neat sketch.

COMPUTER SCIENCE ENGINEERING

Paper Name: Computer Architecture Lab Paper Code: PCC CS 492

1. Explain flynn's classification in details.
2. Explain various pipe line hazards. Compare RISC and CISC processor.

Paper Name: Design and Analysis of Algorithms Lab
Paper Code: PCC CS 494

1. What is divide and conquer method? Explain merge sort with example.
2. What is greedy approach ? Explain quick sort with example.

ELECTRICAL ENGINEERING

Paper Name: - Electric Machine-I Laboratory
Paper Code:-PC-EE-491

1. Explain the characteristics of a separately excited DC generator.
2. Explain the Parallel operation of a single phase transformers.

Paper Name: Digital Electronic Laboratory
Paper Code: PC-EE-492

1. Explain the working principle of counter & shift register.
2. Draw and explain the working principle of Multiplexer.
3. Differentiate between Binary & Decimal Numbers?

Paper Name: - Electric and Electronic Measurement Laboratory
Paper Code:-PC-EE-493

1. Describe the working principle of Kelvin Double Bridge.
2. Describe the working principle of Anderson Bridge.

Paper Name: - Thermal Power Engineering Lab
Paper Code: ES -ME-491

1. Determination of dryness fraction of steam by combined separating and throttling calorimeter. What is dryness fraction? What is superheated vapour? What do you understand by triple point Draw the phase equilibrium diagram for a pure substance on T-S plot with relevant constant property lines.
2. Find the Calorific Value of Diesel Fuel & Coal by Bomb Calorimeter. What is synthetic fuel? How is COM prepared what are the merits of COM as a boiler fuel? What is swelling index and grind ability index of a coal?

ELECTRICAL & ELECTRONICS ENGINEERING

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MECHANICAL ENGINEERING

Paper Name: - Practice of Manufacturing Processes and Systems Laboratory **Paper Code: - PC-ME- 491**

1. hat is sine bar? Discuss the working principle of sine bar. Measurement angle of specimen by sine bar and write procedure with figure of specimen.
2. What is bevel protector? Write down the principle of bevel protector. Measurement angle of specimen by bevel protector and write procedure with figure of specimen.
3. Write down the working principle of profile projector. How to measurement of thread using three wire method with figure.

**Paper Name: Advanced Microprocessor &
Microcontrollers Laboratory
Paper Code: EI-693**

1. Draw & Explain about IC-555 Timer with suitable diagram. What is TRAP?
2. What are the different types of shift registers? Briefly discuss about the matter.
3. Differentiate between 8085 & 8086 Microprocessors?

CIVIL ENGINEERING

**Paper Name: Highway & Transport Engg Lab
Paper Code: CE 691**

1. Determination of impact test of aggregate.
2. Determination of penetration value of bitumen.

**Paper Name: Detail Of Rc & Steel Structures
Paper Code: CE 692**

1. Design a RCC roof slab.
2. Design a double reinforced beam

**Paper Name: Cad Lab
Paper Code: CE693**

1. Explain the functions of different commands in this software.
2. Prepare a detailed drawing of a building (plan, elevation, section) in CAD sheet.

COMPUTER SCIENCE ENGINEERING

**Paper Name: Data Base Management System Lab
Paper Code: CS-691**

1. Draw DFD of a Library management system of a college.
2. Define with example: Primary key, foreign key, Distributed key, super key, candidate key.

**Paper Name: Network Lab
Paper Code: CS-692**

1. Draw and explain RJ 45 connector with color code.
2. Explain different layers of OSI and TCP/IP model.

Paper Name: Operating System Lab
Paper Code: CS-693

1. Explain shell programming and kernel with diagram.
2. Explain Round Robin, FCFS, SJF methods with example.

ELECTRONICS & COMMUNICATION ENGINEERING

PaperName: Digital Communications Laboratory
Paper Code: EC-691

1. Explain the Delta Modulation & De Modulation Processes.
2. Draw and explain about Quantization in Digital communications.
3. Explain different Types of Noises in Digital communications.

PaperName: Digital Signal Processing Laboratory
Paper Code: EC-692

1. What is FFT? Explain briefly.
2. Discuss about the term DFT.
3. Differentiate between Laplace & Fourier Transformation.

Paper Name: Object Oriented Programming Lab
Paper Code: EC 695A

1. Explain various features of OOP.
2. Explain with example various loops in C programming and compare among them.

ELECTRICAL ENGINEERING

Paper Name: - Control System-II
Paper Code: -EE-691

1. Explain the Lyapunov analysis of LTI systems
2. Explain the Inverse Z transforms

Paper Name: - Power System
Paper Code: - EE-692

1. Derive the swing equations for non-coherent machines.
2. Explain different method of arc extinction in a circuit breaker.

Paper Name: - Power Electronics

Paper Code: - EE-693

1. Draw the circuit of a two-quadrant chopper and explain its working principle.
2. Explain the operation of a 1- ϕ half-controlled bridge converter connected to $R-L$ load.

Paper Name: Object Oriented Programming Lab

Paper Code: EE 694C

1. Explain various features of OOP.
2. Explain with example various loops in C programming and compare among them.

MECHANICAL ENGINEERING

Paper Name: - Machining and Machine Tools Lab

Paper Code: ME- 691

1. What is tool wear? What are the tool wear mechanism? Explain about adhesion wear. Write short note about flank wear and crater wear with diagram.
2. Production of a straight toothed spur gear from a cast iron.
3. What is up milling process? Explain with figure. Write the advantage of down milling process.

Paper Name: - I.C. Engine Lab

Paper Code: ME- 692

- 1) Sketch and describe the valve timing diagram of four stroke diesel engine. Study of valve timing diagram of Diesel engine. From the valve timing diagram indicate it.
- 2) Write the working principle of four stroke petrol engine. Performance test of a multi cylinder petrol engine by Morse method. Determine I.H.P. by morse test.

Paper Name: - Design Practice Ii Lab

Paper Code: ME- 693

1. Design and draw a single plate clutch, effective on both sides, is required to transmit 40 KW at 3300 r.p.m. Determine the outer & inner diameters of frictional surface if the co-efficient of friction is 0.225, ratio of diameters is 1.25 & the maximum pressure is not to exceed 0.15 N/mm^2 . Also determine the axial thrust to be provided by springs. assume the theory of uniform wear.
2. Design and draw a journal bearing for a centrifugal pump from the following data:

Load on the journal =22000N;Speed of the journal =950r.p.m; type of oil is SAE10,for which the absolute viscosity at 60°C =0.017 Kg/m-s; Ambient temperature of oil = 15.5°C ; Maximum bearing pressure for the pump= 1.5 N/mm^2

Calculate also mass of the lubricating oil required for artificial cooling, if rise of temperature of oil be limited to 10°C .Heat dissipation co-efficient = $1232 \text{ W/m}^2/^{\circ}\text{C}$. Follow the design code.

Paper Name: - Dynamics of Machines Lab
Paper Code: ME- 694

- 1).With neat sketch explain working function of a porter governor.
From the experiment of a porter governor draw the curve of controlling force verses radius of rotation.
2. a) With neat sketch explain working function of a proell governor.
b) Draw the curve controlling force verses radius of rotation of a proell governor.

Paper Name: - Air Conditioning & Refrigeration Lab
Paper Code: Me- 695A

1. Write all component, working principle details about room Air conditioner. Define summer air conditioning and winter air conditioning. State central air conditioning system.
2. Write all component, working principle details about Domestic Refrigerator. Why ammonia and hydrogen fluid is used in domestic refrigerator? Write advantages of domestic refrigerator over conventional refrigerator.