Code No: 14735/CBCS

FACULTY OF ENGINEERING

BE VII - Semester (CE) (CBCS) (Main & Backlog) Examination, March / April 2021

Subject: Estimation Costing & Specifications

Time: 2 Hours **Max .Marks: 70**

Note: Missing data, if any, may be suitably assumed

PART – A

Answer any five questions. **(5x2=10 Marks)**

1 Write a short note on different types of estimate?
2 List out different types of contract?
3 What is muster roll?
4 What is the significance of measurement Book?
5 Define long wall short wall method of estimation?
6 Explain the significance of bar bending schedule?
7 List out the few features of MS project?
8 List out the few software's used for building estimation?
9 How to calculate the weight of the steel bar per unit length?
10 What are different methods to calculate road work?

PART – B

Answer any four questions. **(4x15=60 Marks)**

11 (a) List out the different types of estimates and explain in detail?
(b) Write down the conditions of contracts?

12 (a) Explain the role of IT tenders in short?
(b) What is PPP? Explain briefly with an example?

13 Calculate the quantities RCC slab 1:2:4 of thickness 150mm and inside dimensions 3mX4m take 12mm diameter of main reinforcement 120mm c/c spacing, 10mm diameter of distribution reinforcement 150mm c/c spacing.

14 Calculate the quantities of RCC column footing for four columns use the following data. Size of footing 1000mmX1000mm, footing height T is 450mm, t is 200mm, size of column is 230mmX460mm.

15 Prepare a detailed estimate of the following items of work by using long wall short wall method from figure1.

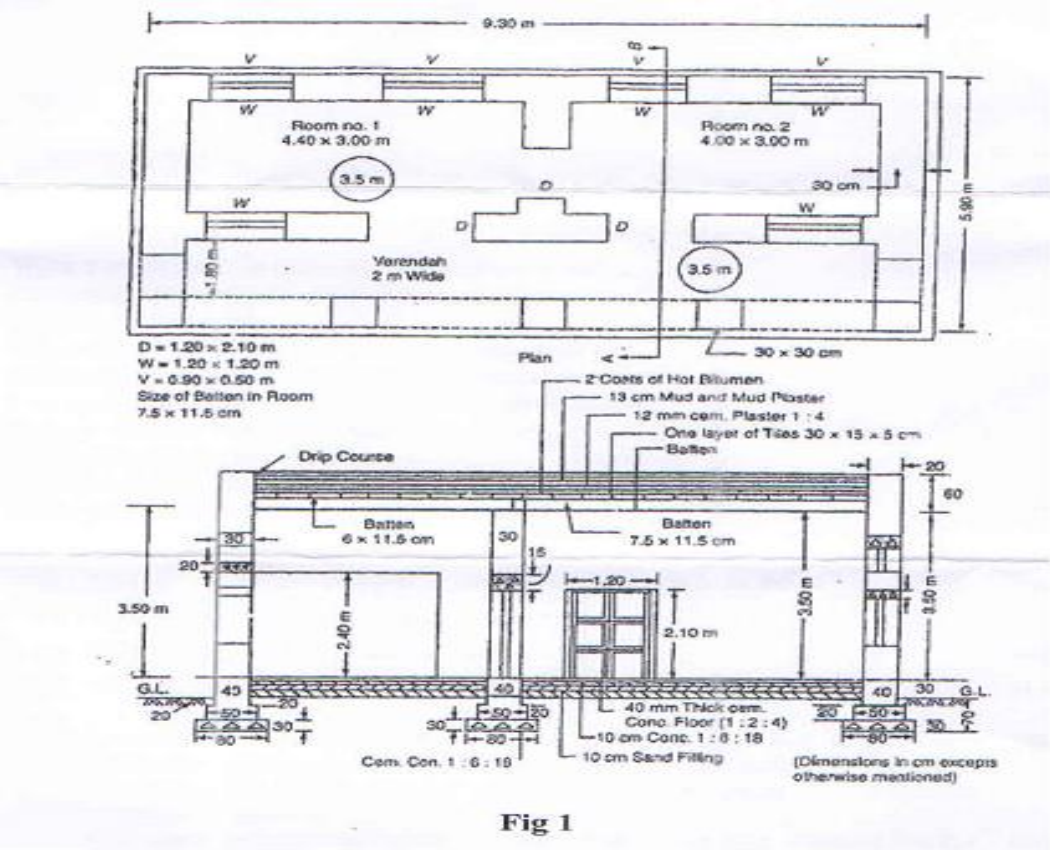

Fig 1

16 (a) Explain the factors affecting analysis of rates.

(b) Find the rates of the following items required for a building the following rates at site are: Sand 350/- per cum, coarse aggregate 800/- per cum, cement 350 per bag, mixing mortar 50/- per cum, standard bricks 20000/- per load 2000nos, steel 50000/- per ton, head mason 700/- per day, man mazdoor 500/- per day. Women mazdoor 400/- per day, binding wire 40/- per kg, shuttering 400/- per cum.

17 Calculate the quantity of earth work in embankment for a portion of canal with the following data: bed width is 3m, free board is 50mm, slope in cutting 1:1, slope in banking 1:5:1, depth is 1m, top width of both the banks are 1.5m

Distance m	0	20	40	60	80	100
Ground level m	422.24	424.80	424.43	424.12	424.50	424.98
Proposed bed level m	424	423.94	423.88	423.82	423.76	423.70

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Code No. 14750/ CBCS

FACULTYOF ENGINEERING

B.E. VII Semester (CBCS) (EEE)(Main & Backlog) Examination, March/April 2021

Subject: Electric Drives and Static Control

Time: 2 hours **Max. Marks: 70**

Note: Missing Data, if any, may be suitably be assumed.

PART – A

Answer any five questions. **(5x2 = 10 Marks)**

1 What are the components of load torques of an electrical drive? Which components can be neglected in an electrical drive?
2 Name the various methods to modify the speed torque characteristics of an Induction Motor.
3 Explain the counter current braking of a dc motor with neat schematic.
4 If energy loss at no-load during speed reversal of a dc motor is 450W, then calculate the total energy loss during starting, dynamic braking, and plugging.
5 Draw the schematics of dual converter with non-circulating current mode and circulating current mode.
6 Draw the closed-loop torque control scheme of an electrical drive.
7 Draw the schematic diagram of separately excited dc motor fed through type-C chopper.
8 What is an AC Voltage Regulator? Draw the schematic of 3-phase AC Voltage Regulator fed Induction Motor.
9 Contrast self-controlled synchronous motor and separately controlled synchronous motor with neat diagrams.
10 What is the principle of operation of typical BLDC Motor?

PART – B

Answer any four questions. **(4x15 = 60 Marks)**

11 (a) Describe the four-quadrant operation of motor-hoist system indicating forward motoring and reverse motoring?
(b) Explain steady-state stability of a drive system and derive the condition for the same.

12 (a) Derive the relation between speed and torque of a dc series motor.
(b) Explain the modified speed-torque characteristics of a dc series motor for no-load operation with a neat schematic.

13 (a) Explain the regenerative braking of a separately excited dc motor and draw its speed-torque characteristics.
(b) A 200V, 1500 rpm separately excited dc motor has an armature resistance of 0.13Ω and takes an armature current of 50A when delivering rated torque at rated flux. If flux is maintained constant throughout the operation,
(i) Calculate the speed at which a braking torque equal in magnitude to full load torque, when plugging with extra resistance to limit the peak torque on changeover to 3 times the rated torque.
(ii) What terminal voltage would be required to run the motor in reverse direction at rated torque and half-rated speed?

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14 Explain the operation of a single-phase semi-converter fed to separately excited dc drive with neat schematic and waveforms. Derive the expression for average value of the output voltage at 'α' firing angle. Assume continuous armature current operation.

15 (a) Plot the speed-torque characteristics of 1-phase fully controlled converter fed separately excited dc motor drive. Draw the output voltage waveform for the same converter at two different firing angles.

(b) A 200V, 1000rpm, 120A separately excited dc motor has the armature resistance of 0.05Ω. It is fed from a 1-phase fully controlled converter with an ac source voltage of 230V, 50Hz. Assuming continuous conduction, calculate,

(i) Motor speed for α=150° for rated motor torque

(ii) Motor speed for α=150° at twice the rated torque.

16 With a neat schematic, explain the slip-power recovery schemes of a three-phase induction motor drive.

17 (a) Explain the operation of variable reluctance motor with neat schematic.

(b) Discuss the applications of synchronous motor drive.

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Code No. 14753/CBCS

FACULTY OF ENGINEERING

B.E. (Inst.) VII-Semester (CBCS) (Main & Backlog) Examination, March/April 2021

Subject : Virtual Instrumentation

Time: 2 hours **Max. Marks: 70**

Note: Missing Data, if any, may be suitably be assumed.

PART – A

Answer any five questions. **(5x2=10 Marks)**

1 What is a Virtual Instrument? Give an example.
2 What is a sub-VI? Write any one method to create it.
3 List the classification of Graphical indicators in LabVIEW.
4 Write an analogous of *if then else* in LabVIEW software.
5 Why signal conditioning is needed in Data Acquisition system?
6 What is the role of interrupts in DAS?
7 What is VXI? Where it is used.
8 Write the classification of common instrument busses.
9 Write a program using LabVIEW to find power spectrum of signals.
10 What is VISA? Write its applications.

PART – B

Answer any four questions. **(4x15=60 Marks)**

11 With in detail the different blocks of Front panel and block diagram of LabVIEW.

12 Explain the different methods to create *arrays and clusters* using suitable example in labview.

13 What is the use of formula nodes, Local and Global variables? Explain with an example.

14 What is GPIB? Explain its pin configuration.

15 What is serial communication interface? Explain any one in detail for interfacing an instrument.

16 With a LabVIEW progam to separate a sinusoidal signal equipeed with noise using suitable express VI.

17 Write short notes on:
a) ADC and DAC and
b) DMA of Data acquisition system.

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Code No. 14756 / CBCS

FACULTY OF ENGINEERING

B.E. (ECE) VII – Semester (CBCS) (Main & Backlog) Examination, March/April 2021

Subject: VLSI Design

Time: 2 hours **Max. Marks: 70**

Note: Missing Data, if any, may be suitably be assumed.

PART – A

Answer any five questions. **(5x2 = 10 Marks)**

1 What are the advantages of CMOS circuits over MOS circuits?

2 What complications arises due to body effect?

3 List the various layers in fabrication of CMOS IC.

4 Draw the stick and layout diagram of 2-input NAND gate.

5 Compare Carry select adder and Carry skip adder.

6 Draw the schematic diagram of IT DRAM cell.

7 What are the Test Principles in CMOS testing and ATPG?

8 What are the design strategies for CMOS test?

9 What are high output impedance current mirrors? Draw the circuits.

10 Draw small signal model for common source amplifier with current mirror.

PART – B

Answer any four questions. **(4x15 = 60 Marks)**

11 a) Explain CMOS inverter characteristics in five regions and derive its mid point voltage.
b) Explain the various steps involved in the fabrication of CMOS using n-well process.

12 a) Explain lambda based design rules that are to be followed while drawing layouts.
b) How do you estimate delay in CMOS circuits?

13 a) Explain the Booth Multiplier with block diagram.
b) Explain the NAND based ROM design.

14 a) Summarize Edge triggered flip-flops.
b) What are the approaches in design for Testability? Explain briefly about Built-in Self Test (BIST).

15 a) Derive an expression for Trans conductance g_m, g_{ds} and figure of merit.
b) List out the various rules in stick diagram and draw the stick diagram and layout of 3-input NAND gate.

16 a) Draw and explain the source degeneration and derive the expression for output impedance.
b) Draw and explain Wilson Current Mirror.

17 Write short notes on any two:
a) Manchester carry chain
b) Boundary scan test
c) BICMOS inverter.

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Code No. 14765/CBCS

FACULTY OF ENGINEERING

B.E. (M/P) VII-Semester (Main & Backlog) Examination, March/April 2021

Subject : Finite Element Analysis

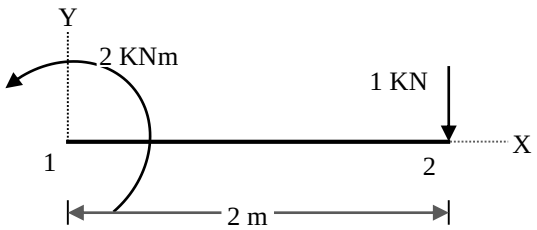
Time: 2 hours **Max. Marks: 70**

Note: Missing Data, if any, may be suitably be assumed.

PART – A

Answer any five questions. **(5x2 = 10 Marks)**

1 What are the properties of stiffness matrix?
2 State the principle of minimum potential energy.
3 Write the stiffness matrix for plane frame element.
4 Determine the load vector for the beam element shown in figure.

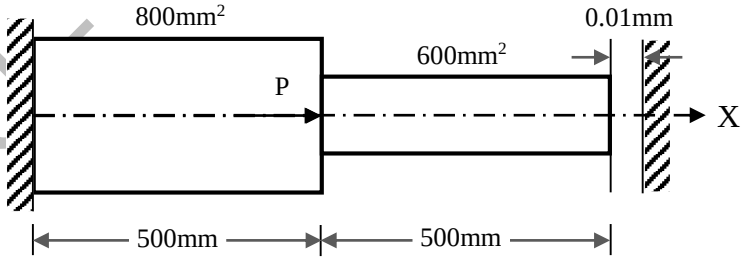


5 State strain – displacement relations for a plane strain problem.
6 In a plane stress problem, σ_x=100 MPa, ε_y=0.001, E = 200 GPa and v=0.25. Determine the normal strain in z-direction (ε_z).
7 Differentiate between isoparametric and subparametric elements.
8 What is meant by isoparametric formulation?
9 What are the convergence requirements of finite element method?
10 What are the properties of eigen vectors?

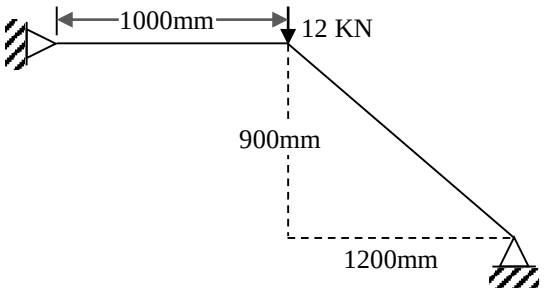
PART – B

Answer any four questions. **(4x15=60 Marks)**

11 For the stepped bar shown in figure 1, determine the nodal displacements and element stresses. Take E = 70 GPa, P = 50kN, $\alpha = 20 \times 10^{-6}/^0$ C and $\Delta T = 50^0$ C.



12 Find the nodal displacements and element stresses in the truss shown in figure 2. Take E = 200 GPa, A = 600 mm² for all members.



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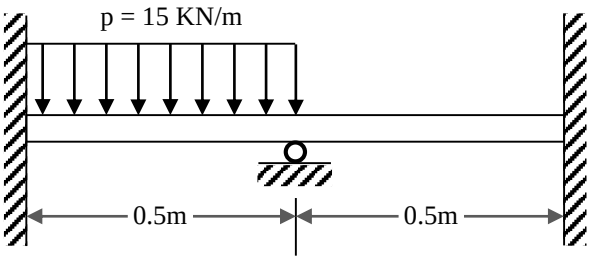
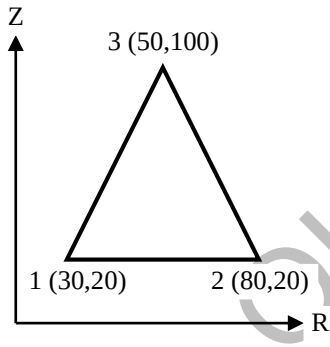
13 For the beam shown in figure 3, determine the deflection and slope if E = 200 GPa and I = 5×10^4 mm^4.



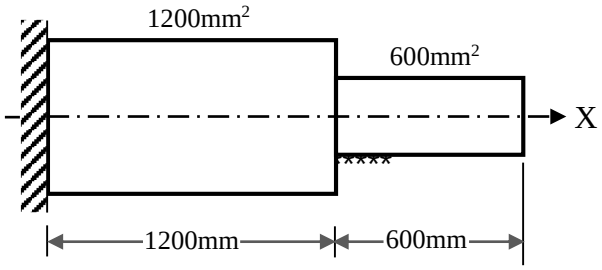
14 (a) Derive the strain displacement matrix for a 3- noded triangular element.
(b) Determine the element stiffness matrix for the axisymmetric triangular element shown in figure 4. Take E = 210 GPa and v = 0.25.



15 (a) Derive the shape functions for 4-noded quadrilateral element using natural coordinates.
(b) What is numerical integration? Explain in brief about Gauss quadrature method.
(c) What are global, local and natural coordinates?

16 Determine the temperature distribution in the circular fin of diameter 1 cm and length 8 cm. Base of the fin is maintained at 100 ^{0} C and convection takes place throughout the surface including the tip. The ambient temperature is 20^0 C. Assuming the fin has two linear elements. Take k=2 W/cm^0 C and h=0.2 W/$cm^{2\,0}$ C.

17 Determine the eigen values and eigen vectors for the stepped bar shown in figure 5. Take E = 200 GPa and ρ = 7500 kg/m^3.



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Code No. 14771/CBCS

FACULTY OF ENGINEERING

B.E. (A.E) VII - Semester (CBCS) (Main & Backlog) Examinations, March/April 2021

Subject : Vehicle Maintenance.

Time: 2 Hours **Max. Marks: 70**

Note: Missing Data, if any, may be suitably be assumed.

PART – A

Note: Answer any Five Questions **(5x2 = 10Marks)**

1 What is the main objective of maintenance?
2 Mention two methods to calculate ovality of an engine cylinder.
3 What is cylinder-head gasket? Where it is installed and why?
4 What is clutch pedal free play? Explain adjustment of the clutch pedal free play.
5 Define clutch drag and clutch slip.
6 Define brake bleeding.
7 Explain overhauling of the steering system.
8 What is the effect of fan belt tension on alternator performance?
9 Write the procedure for inspection of battery charging system.
10 Mention the few body repair tools.

PART – B

Note: Answer any Four Questions **(4x15 = 60Marks)**

11 a) What are the safety precautions to be considered in the maintenance of an automotive?
b) Explain scheduled and breakdown maintenance of an automotive Vehicle.

12 a) Write the step by step procedure of overhauling a multi-cylinder petrol engine.
b) Explain the various methods of cleaning the diesel engine components.

13 a) Explain the maintenance and servicing of an automotive gear box.
b) State the probable cause and its remedies for a noisy gear box?

14 a) Explain different problems that may effect the performance of a hydraulic Braking system with drum brakes.
b) Explain the different methods used for wheel balance.

15 a) Explain checking and servicing of dashboard instruments.
b) Explain briefly about the maintenance of alternators.

16 What is meant by calibration of fuel injection pump? Explain briefly step by step procedure for calibration of Fuel Injection Pump (FIP).

17 List and explain the different tools and equipment's used in garages and service station with the help of neat sketches.

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Code No. 14775/CBCS

FACULTY OF ENGINEERING

B.E. VII- Semester (CSE)(CBCS)(Main & Backlog) Examination, March/April 2021

Subject: Distributed Systems

Time: 2 hours **Max. Marks: 70**

Note: Missing Data, if any, may be suitably be assumed.

PART – A

Answer any five questions. **(5x2 = 10 Marks)**

1. What is distributed transparency and list few types of Transparency?
2. What do you mean by logical clocks?
3. What are events and notifications and how it is used in distributed system?
4. Define Nested transaction.
5. What are fault tolerant services in distributed file system?
6. List out various tasks of recovery manager.
7. What are the sources of Big data.
8. Give the difference between stub and skeleton.
9. What is name resolution?
10. List the types of Communication.

PART – B

Answer any four questions. **(4x15 = 60 Marks)**

11. Explain in detail the goals of distributed systems.
12. How does the Communication takes place in distributed objects? Explain with architecture.
13. Explain the algorithms for distributed mutual exclusion in detail?
14. Explain the different coordination models and the architecture of coordination based model.
15. (a) Write about gossip architecture
    (b) Discuss the architecture of NFS
16. Brief Hadoop distributed file systems (HDFS) with a neat diagram.
17. Write note on:
    (a) How objects are referred in distributed object based system.
    (b) Synchronization issues in Distributed File systems.

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Code No. 14779/CBCS

FACULTY OF ENGINEERING

B.E. VII-Semester (CBCS) (IT) (Main& Backlog) Examination, March/April 2021

Subject: Big Data Analytics

Time: 2 Hours **Max. Marks: 70**

Note: Missing Data, if any, may be suitably be assumed.

PART – A

Note: Answer any Five Questions **(5x2 = 10Marks)**

1. List the challenges posed by Big Data.
2. Differentiate between structured, semi-structured and unstructured data.
3. List the 3 major components of Hadoop .
4. List the characteristics of Name nodes.
5. Describe the usefulness of Materialized Views.
6. Define Sharding data replication technique.
7. Describe what is meant by Speculative execution.
8. List the benefits of map reduce.
9. Define eval user defined function in Pig Latin.
10. Differentiate between internal and external tables in Hive.

PART – B

Note: Answer any Four Questions **(4x15 = 60Marks)**

11. a) Explain the importance of Big Data, and how it differs from traditional data.
    b) Explain Big Data applications in healthcare.

12. a) Explain the Hadoop Ecosystem in detail.
    b) Explain how Data is read using the Java File System API

13. a) Explain the characteristics of Schema-less database. What are its advantages and disadvantages with respect to Relational database .
    b) Explain partitioning and combining in Map Reduce.

14. a) Explain anatomy of YARN Map Reduce job run.
    b) Explain the failures in classic/YARN Map Reduce.

15. a) Explain the salient features of PigLatin's Data Model.
    b) List the advantages of Hive with respect to traditional databases

16. a) Describe the evolution of Big data in detail.
    b) Explain Map Reduce Input formats

17. Write short notes on the following:
    a) Grouping and joining in Pig Latin
    b) Column-Family Databases

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Code No: 14218

FACULTY OF ENGINEERING

BE IV/IV (ECE) I-Semester (Backlog) Examination, March / April 2021

Subject: Electronic Instrumentation

Time: 2 Hours **Max .Marks: 75**

Note: Missing data, if any, may be suitably assumed

PART – A

Answer any seven questions. **(7x3=21 Marks)**

1 Mention three major categories of error and give example of each?
2 Explain about the elements of ISO 9001?
3 Explain the transducer for measurement of radioactivity?
4 Mention characteristics of sound?
5 Detail a typical application of photo voltaic cell?
6 Compare DSO and CRO?
7 Explain a transducer for measurement of velocity?
8 List the transducers that are used to measure force?
9 What are the typical electrodes employed for the measurement of EEG signal?
10 Why are ultrasound images of bone structure distorted?

PART – B

Answer any three questions. **(3x18=54 Marks)**

11 (a) Classify standards and explain how they are useful to industries?
(b) Six determinations of a quantity as entered on the data sheet and presented for analysis are 12.35,12.71,12.48,10.24,12.63 and 12.58. Examine the data and calculate:
(i) Arithmetic mean (ii) Standard deviation (iii) Probable error

12 (a) Describe constructional features of a linear variable differential transformer (LVDT) and show how the linear rang is estimated from design constants?
(b) Define gauge factor of a resistance stain gauge and derive the expression for the same?

13 (a) What is the function of Hygrometer? List out various types of Hygrometer? Explain any one of them in detail?

14 (a) Draw the block diagram of spectrum analyzer and discuss how it increases the apparent frequency response of an oscilloscope?
(b) Discuss how data transmitted over the IEEE 488 bus system?

15 Explain the working of EMG recording with a neat circuit diagram?

16 (a) Explain Photo Electric Phenomenon? Distinguish between the photo voltaic, photo emissive and photo conductive cells?
(b) List the characteristics of resting potentials?

17 Write short notes on:
(a) Data acquisition system
(b) Magnetic tape recorders

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Code No: 14223/O

FACULTY OF ENGINEERING

BE IV/IV (ECE) I-Semester (Old) Examination, March / April 2021

Subject: Computer Networks

Time: 2 Hours **Max .Marks: 75**

Note: Missing data, if any, may be suitably assumed

PART – A

Answer any seven questions. **(7x3=21 Marks)**

1 What are the data link layer design issues?
2 What are the features of OSI model?
3 What are IEEE standard for Wi-Fi, Bluetooth.
4 Distinguish between router & bridge.
5 Explain the concept of Domain name system.
6 Write about UDP.
7 What is sliding window.
8 Explain the key element of a protocol.
9 What is bit stuffing with example?
10 What is Digital signature?

PART – B

Answer any three questions. **(3x18=54 Marks)**

11 (a) Explain in detail network topologies.
(b) Explain the features of IEEE 802.11, 802.16 standard.

12 (a) Compare broadcast, multicast and hierarchical routing.
(b) Write about virtual switching.

13 (a) Explain IPV4 protocol.
(b) What is an IP address? Describe allocation of an IP address to a host.

14 (a) Give the header frame of UDP protocol.
(b) Compare TCP and UDP protocol.

15 (a) Explain bout symmetric key algorithm.
(b) Write about Domain name system.

16 (a) What are the element of transport protocol.
(b) Describe the architecture of WWW.

17 Write short notes on any two:
(a) Flooding
(b) ALOHA
(c) Frame relay

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Code No.14241

FACULTY OF ENGINEERING

B.E. 4/4 (Mech.) I-Semester (Backlog) Examination, March/April 2021

Subject : Thermal Turbo Machines

Time: 2 hours **Max. Marks: 75**

Missing Data if any may be suitably be assumed. Use of Data book is permitted.

PART – A

Answer any seven questions. (7x3=21 Marks)

1 Define Mach number. What is the impact of Mach number in compressible fluids?
2 What is the Fanning coefficient of friction and Darcy's function factor?
3 Draw Rayleigh curve on h-s plane?
4 Write the Prandtl Meyer relation for compressible flow.
5 Define Slip factor of compressor with neat sketch?
6 Define surging of a rotary compressor?
7 Define compounding of steam turbine and why it is necessary?
8 Define friction loss and thrust developed by steam turbine.
9 Draw the configuration diagram and temperature-entropy diagram for open cycle gas turbine?
10 What are the advantages of pulse jet engine?

PART – B

Answer any three questions. (3x18 = 54 Marks)

11 From the first principles derive the Fanno equations and sketch T-S Plane, a characteristics Fanno line.

12 The pressure, temperature and Mach no. at the entry of a flow passage are 3.6 bar, 35^{o}C and 1.5 respectively. If the exit Mach number is 3.0 determine for adiabatic flow of perfect gas (γ =1.4, R=287 J/Kg ^{0}K). (i) Stagnation temperature (ii) The flow rate/m^2 of the inlet cross section.

13 Derive Rankine-Hugonoit relation for a normal shock.

14 A single eye, single stage centrifugal compressor delivers 20 kg of air per second with a pressure ration of 3, when running at 17000 Rpm. The pressure and temperature of the air at the suction side are 1.0132 bar and 17^{0}C. Assume slip factor = 0.9, work input factor = 1.08, isentropic efficiency = 80%. Find (i) the input power required to drive the compressor and (ii) blade angle at the impeller eye, if the tip diameter is twice the root diameter.

15 Write the classification of steam turbines and explain its working principle based on Rankine cycle. Derive an expression for work done and efficiency.

16 In a Parsons turbine running at 2000 Rpm, the available enthalpy drop for the expansion is 60 kJ/Kg. If the mean diameter of the rotor is 0.75m, find the number of the rows of the moving blade required. Assume stage efficiency as 80%, blade outlet vane angle is 20^{0} and speed ration is 0.7.

17 A gas turbine unit receives air at pressure 100 kPa and temperature 300 K and compresses it adiabatically to 620 kPa with efficiency of the compressor 88%. The fuel has heating value of 44180 kJ/Kg and fuel/air ratio is 0.017 kg fuel/kg of air. The turbine internal efficiency is 90%. Calculate the compressor work, turbine work and thermal efficiency.

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Code No. 14246

FACULTY OF ENGINEERING

B.E. 4/4 (Prod.) I – Semester (Backlog) Examination, March/April 2021

Subject: Control Systems Theory

Time: 2 hours **Max. Marks: 75**

Note : Missing Data, if any, may be suitably be assumed.

PART – A

Answer any seven questions. **(7x3=21 Marks)**

1 Sketch a feed back with one for a system consisting of an automobile with a person driving it.

2 Find the behavior at infinity for a system given by $G(S) = \frac{1}{S(S-1)}$.

3 Find the Inverse Laplace transform of $F(S) = \frac{1}{S^2(S^2+W^2)}$.

4 Sketch the polar plot of $G(S) = \frac{e^{-st}}{(1+st)}$.

5 The characteristic equation of a feedback system is given as $S(S^2+3kS+k+2)+4=0$. Find the value of 'k' for the stable system.

6 State Mason's gain formula and explain each term in it.

7 What is the effect of a PI Controller on the system performance?

8 State the properties of STM.

9 If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, find $\phi(t)$.

10 What is the significance of linearization and non-linearisation in control systems?

PART – B

Answer any three questions. **(3x18 = 54 Marks)**

11 Derive the transfer function of a armature controlled DC Motor.

12 a) Use Mason's gain formula to find $T(S) = \frac{C(S)}{R(S)}$.

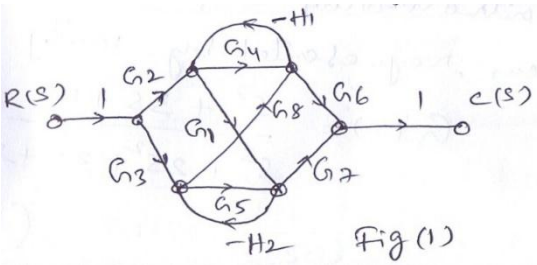

Fig (1)

b) Obtain the analogous electrical systems for the given mechanical system.

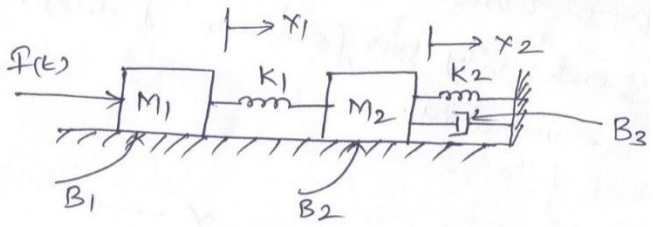

Fig (2)

13 Sketch the Root locus of a system $G(S) = \frac{K(S+2)}{S^2 + 2S + 3}$ and determine the damping ratio for the value of K=1.33.

14 Determine the stability of a system by the bode plot which is represented by unity open loop transfer function $G(S) = \frac{10\,K(S+0.5)}{S^2(S+2)(S+10)}$

15 Sketch the Nyquist plot and find the stability of the closed loop system, whose open loop transfer function is

$$G(S)H(S) = \frac{KS}{S^2 + 2S + 11}$$

16 Check for controllability and observability of the system represented by unity feedback system

$$G(S) = \frac{S^2 + 3S + 4}{S^3 + 2S^2 + 3S + 2}.$$

17 Discuss the following:
a) PID controllers
b) Sensitivity performance indices
c) Servomotors.

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Code No: 14267

FACULTY OF ENGINEERING

BE IV/IV (CSE) I-Semester (Backlog) Examination, March / April 2021

Subject: Distributed Systems

Time: 2 Hours **Max .Marks: 75**

Note: Missing data, if any, may be suitably assumed

PART – A

Answer any seven questions. **(7x3=21 Marks)**

1 Define distributed systems? State 3 characteristics of distributed systems?
2 Difference between multi computers & multi processors?
3 Define RPC & RMI?
4 What is the external data representation of CORBA?
5 Define happened before relation?
6 What is reliable multicast?
7 Define phantom deadlocks?
8 What are the types of failures occurred in 2PC
9 What are the requirements of distributed file system?
10 Define sequential consistency & release consistency?

PART – B

Answer any three questions. **(3x18=54 Marks)**

11 (a) Describe the architectural models of distributed systems.
(b) What are the functions of Os and What are the elements of execution environment?

12 (a) Explain about client-Server communication?
(b) Explain about RMI with neat diagram?

13 (a) What are the advantages of clock synchronization algorithm? Explain any one of clock Synchronization algorithm?
(b) Write notes on “Mutual Exclusion”?

14 Explain about 2 phase commit protocol. How does 3 phase commit protocol differ from 2 phase commit protocol?

15 Explain in detail about CODA file system architecture with neat diagram?

16 (a) Discuss distributed deadlock detection algorithms?
(b) Explain about dirty read/premature writes problems?

17 Write short notes on:
(a) Snapshot algorithm
(b) Timestamp ordering

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