AR16

CODE: 16CE2009 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, July-2019
STRENGTH OF MATERIALS-II
(Civil Engineering)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1. a) Briefly describe the procedure of Macaulay's method. 7m
   b) A cantilever of length 2m carries a point load of 3kN at the free end and another load of 30kN at its centre. If EI = 1013 N/mm^2 for the cantilever, then determine by moment area method, the slope and deflection at the free end of cantilever. 7m

(OR)

2. A beam of length 6m is simply supported at its ends and carries two point loads of 48kN and 40kN at a distance of 1m and 3m respectively from the left support. Find: (i) deflection under each load, (ii) maximum deflection and (iii) the point at which maximum deflection occurs. Given E = 2 x 10^5 N/mm^2 and I = 85 x 10^6 mm^4. 14m

UNIT-II

3. In a material the principal stresses are 60 MN/m^2, 48 MN/m^2 and – 36 MN/m^2. Calculate i. Total strain energy ii. Volumetric strain energy iii. Shear strain energy iv. Factor of safety on the total strain energy criteria if the material yields at 120 MN/m^2. Take E = 200 GN/m^2 and 1/m = 0.3 14m

(OR)

4. a) Explain the Strain Energy Theory 7m
   b) The principal stresses at a point in material are 40N/mm^2 and 120 N/mm^2 both tensile. Find the normal and shear stress on a plane inclined at 30^0 to the plane of greater principal stress 7m

UNIT-III

5. a) Derive the stresses developed in thin cylindrical vessel subjected to internal pressure. 7m
   b) A thin cylinder 1.5 m internal diameter and 5 m long is subjected to an internal pressure of 2 N/mm^2. If the maximum stress is limited to 160 N/mm^2, find the thickness of the cylinder. *E* = 200 kN/mm^2 and Poisson's ratio = 0.3. Also find the changes in diameter, length and volume of the cylinder. 7m

(OR)

6. a) Derive the stresses developed in thick cylindrical vessel subjected to internal fluid pressure. 7m

   b) A cylindrical shell 3 m long which is closed at the ends has an internal diameter 1m and wall thickness of 15 mm. Calculate the change in dimensions and change in volume if the internal pressure is 1.5 N/mm^2,E = 2 x 10^5 N/mm^2, μ= 0.3. 7m

UNIT-IV

7. a) Derive the equivalent length of a column for which both ends are fixed using Euler's theory. 7m

   b) Determine the safe axial load in a timber column of cross-sectional area 150mm X 150mm and of 4m length can carry using a factor of safety, 8. Take E = 10kN/mm^2 and for (a)hinged ends (b) fixed ends 7m

(OR)

8. A steel strut of circular section is 2m long and hinged at both ends. Find the necessary diameter such that under a thrust of 100kN at an eccentricity of 0.1 of the diameter from the axis of the strut, the maximum compressive stress does not exceed 90kN/mm2. If the yield stress in compression for steel is 400N/mm2, find the crippling load of the strut. 14m

UNIT-V

9. a) Write the expression for maximum deflection, maximum bending moment and maximum stress of a beam-column simply supported and carrying a UDL of intensity w per unit length. 6m

   b) Determine the maximum stress induced in a horizontal strut of length 2.5m and of rectangular cross section 40mm wide and 80mm deep when it carries an axial thrust of 100kN and a vertical load of 6kN/m length. The strut is having pin joints at its ends. E=208GPa. 8m

(OR)

10. a) Define retaining wall, earth pressure and types of earth pressure. 4m

    b) A masonry dam of rectangular section, 20m high and 10m wide, as water up to a height of 16m on its one side. Find a) Pressure force due to water and 1m length of dam b) Position of centre of pressure and the point at which the resultant cuts the base. Take weight density of masonry=19.62kN/ m^3 and of water =9.81kN/ m^3. Calculate the maximum and minimum stress intensities at base of dam. 10m

AR16

CODE: 16EE2013 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Supplementary Examinations, July-2019

CONTROL SYSTEMS

(Electrical & Electronics Engineering)

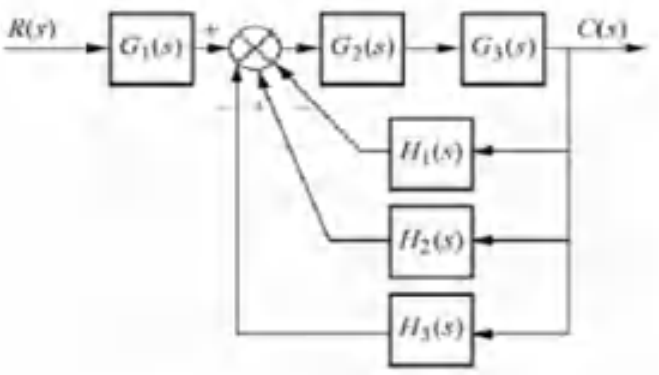
Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1. a) What is a signal flow graph? Explain about basic elements in signal flow graphs **6**

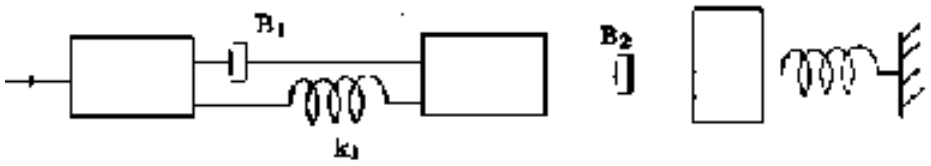
   b) Obtain the transfer function for the system shown in the fig **8**



(OR)

2. a) State and explain the Mason's gain formula **6**

   b) Write the differential equations governing the Mechanical system shown in fig. **8**



UNIT-II

3. a) Derive the transfer function and develop the block diagram of Armature controlled DC servo motor **6**

   b) Derive the time domain specifications for the second order under damped system. **8**

(OR)

4. a) For a unity feedback control system the open loop transfer function G(S) = 10(S+2)/ S (S+1). Find Position, velocity and acceleration error constants. **8**

b) Give the relation between generalized and static error coefficients. Mention advantages of generalized error constants over static error constants. **6**

UNIT-III

5. Sketch the root locus for the open loop transfer function of unity feedback control system given below: G(S) H(S) =K/S(S+1) (S+2). **14**

(OR)

6. Using Routh criterion determine the stability of the system whose characteristics equation is S4+8S3+18S2+16S+5 =0 **14**

UNIT-IV

7. Sketch the Bode plot and hence find Gain margin and Phase margin. G(S) = 10(S+3) / S(S+2) (S+10) **14**

(OR)

8. Construct the polar plot for the function GH(S) =2(S+1) / S(S+10). Find Gain cross over frequency, Phase cross over frequency, Gain margin and Phase margin. **14**

UNIT-V

9. What is compensation? Why it is needed for control system? Explain the types of compensation **14**

(OR)

10. Given $A = \begin{bmatrix} 0 & -2 \\ 1 & -3 \end{bmatrix}$, $B = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$, $C = \begin{bmatrix} 0 & 1 \end{bmatrix}$ Find the state transition matrix. **14**

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AR16

CODE: 16ME2011 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Supplementary Examinations, July-2019

MACHINE DRAWING

(Mechanical Engineering)

Time: 3 Hours **Max Marks: 70**

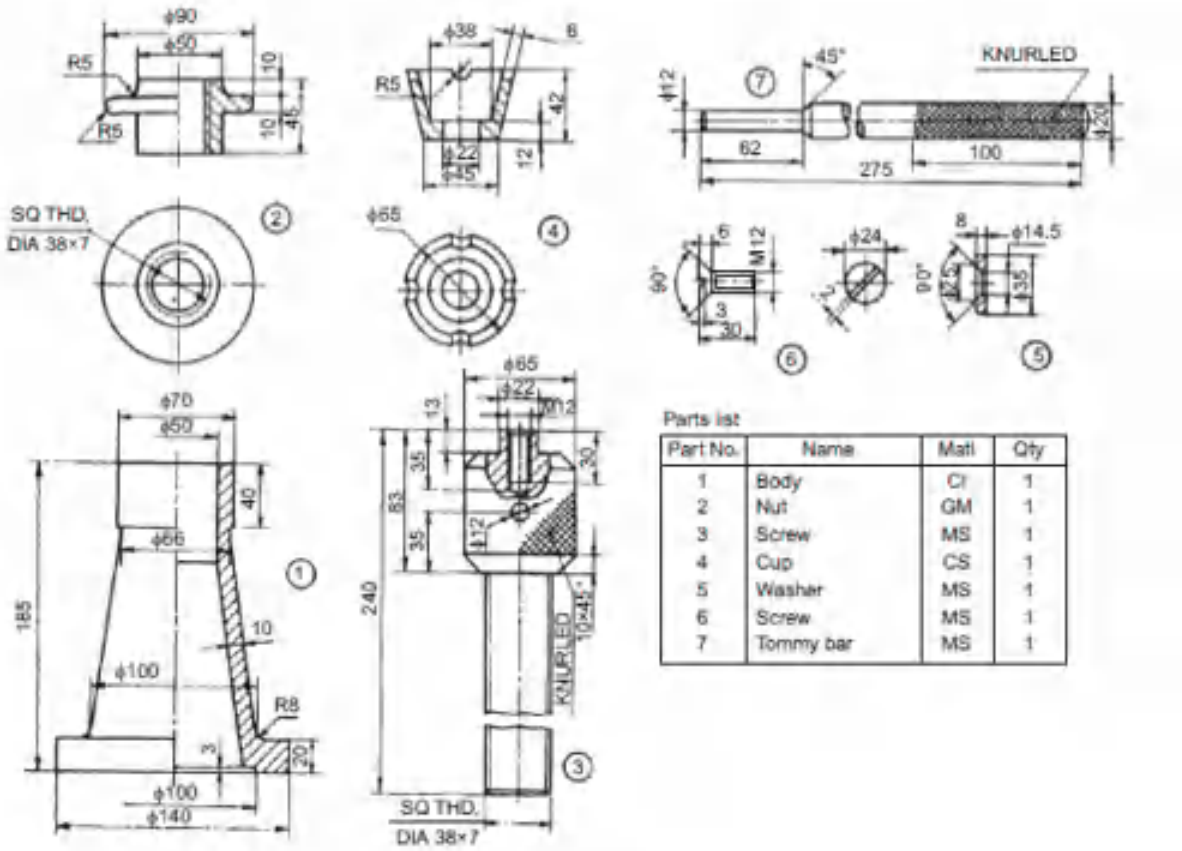
Section A

Note: Answer any two questions from section A and Section B is compulsory (2x15=30Marks)

1. Draw the following thread profiles by showing the necessary relation for the profile dimensions in terms of pitch: (i) Whitworth Thread (i) Square Thread (ii) Buttress Thread
2. Sketch neatly a Knuckle joint (front and top views) for connecting to 25 mm diameter rods. Give all important dimensions.
3. Draw the sectional front view, top view and the side view of a single riveted lap joint for 12 mm thick plates. Show the pitch, margin and width of overlap.

Section B

4. Figure gives the detailed drawings of a screw jack. Assemble all the parts and draw the following assembled views. a) Sectional front view b) Top view **(40Marks)**



Parts list

Part No.	Name	Matl	Qty
1	Body	CI	1
2	Nut	GM	1
3	Screw	MS	1
4	Cup	CS	1
5	Washar	MS	1
6	Screw	MS	1
7	Tommy bar	MS	1

AR16

CODE: 16EC2010 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, July-2019

DIGITAL ELECTRONICS
(Electronics and Communication Engineering)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1. a) Find X in the following expressions **6M**
   (i) $(AD012)_{16} = (X)_8$ (ii) $(5204)_{10} = (X)_3$
   b) Represent the unsigned decimal numbers 351 and 986 in BCD, and then show the steps necessary to form their sum. **8M**

(OR)

2. a) Perform the following operations using r-1's complement arithmetic: **6M**
   (i) $(+43)_{10} - (-53)_{10}$. (ii) $(+346.56)_{10} - (+456.78)_{10}$.
   b) Find the sum of the following XS-3 codes **8M**
   (i) 109 + 778 (ii) 204.6 + 185.56

UNIT-II

3. Given the following Boolean expression:
   $F(w,x,y,z) = xy'z' + x'y'z + w'xy + wx'y + wxy.$
   a) Draw the logic gates diagram using the original Boolean expression. **7M**
   b) Simplify the function to a minimum number of literals using Boolean algebra. **7M**

(OR)

4. a) Explain about Boolean theorems. **8M**
   b) Implement 3-bit gray code to binary code converter. **6M**

UNIT-III

5. a) Describe briefly 4-bit binary subtractor with the help of a neat diagram **6M**
   b) Draw the diagram of excess – 3 adder and discuss. **8M**

(OR)

6. a) Explain full subtractor and implement it using NAND gates **8M**
   b) List and explain the applications of full adders **6M**

UNIT-IV

7. a) Design a 8:1 multiplexer using 4:1 and 2:1 multiplexers. **6M**
   b) Design LED seven segment display with the help of truth table **8M**

(OR)

8. Implement the following multiple output combinational logic circuit using a 4 to 16 decoder: F1=$\sum$ m (0,1,4,7,12,14,15) **14M**
   F2=$\sum$ m (1,3,6,9,12)
   F3=$\sum$ m (2,3,7,8,10)
   F4=$\sum$ m (1,3,5)

UNIT-V

9. a) Explain 4-bit serial in and parallel out shit register using D flip flops. **6M**
   b) Describe the working of a 4-bit Johnson counter with the help of truth table. **8M**

(OR)

10. a) Discuss bi – directional shift register with neat diagram **6M**
    b) Implement asynchronous decade counter using T-Flip flops **8M**

AR16

CODE: 16CS2009 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Supplementary Examinations, July-2019

OPERATING SYSTEMS

(Common to CSE & IT)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1. a) Define system call. Explain in detail about different types of system calls with examples. **8M**

   b) Distinguish between long, short, medium-term schedulers with example. **6M**

(OR)

2. a) List and Explain about functions and services provided by the operating system with a neat diagram. **7M**

   b) Consider the following set of processes p1,p2,p3,p4 with their arrival and burst times given in below table: **7M**

PROCESS	ARRIVAL TIME	BURST TIME
P1	0	9
P2	1	7
P3	2	2
P4	3	6

i) Draw the Gantt chart and calculate the average waiting time and average turnaround time using FCFS algorithm.

ii) Draw the Gantt chart and calculate the average waiting time and average turnaround time using SRTF algorithm.

UNIT-II

3. a) List the necessary conditions for a deadlock. Discuss in detail about Resource-Allocation graph with and without deadlock using suitable example. **8M**
   b) Explain in detail about how a system is recovered from the deadlock. **6M**

(OR)

4. a) Discuss in detail about critical section problem. Illustrate the software based solution to the critical section problem. **7M**
   b) Illustrate the syntax and schematic view of monitor. Explain in detail about solution to the dining- philosophers problem using monitors. **7M**

UNIT-III

5. a) What is Paging? Discuss in detail about the basic method for implementing paging with example. **8M**
   b) Define virtual memory. Explain in detail about the implementation of virtual memory with a neat diagram. **6M**

(OR)

6. a) Distinguish between internal fragmentation and external fragmentation and explain how to solve the external fragmentation problem. **7M**
   b) What is demand paging? Discuss in detail about steps in handling a page fault with a neat diagram. **7M**

UNIT-IV

7. a) Explain in detail about the following: **7M**
      i) File attributes ii) File operations
   b) Discuss in detail about file system implementation with suitable examples. **7M**

(OR)

8. a) Explain in detail about various types of file sharing mechanisms. **8M**
   b) Discuss in detail about layered file system with a neat diagram. **6M**

UNIT-V

9. a) Explain in detail about the following disk scheduling algorithms with examples. **7M**
      i) C-SCAN Scheduling ii) C-LOOK Scheduling
   b) Illustrate in detail about disk structure with suitable examples. **7M**

(OR)

10. a) Explain in detail about the following with a neat diagram. **8M**
      i) Boot block ii) Bad block
   b) Explain in detail about the following: **6M**
      i) Magnetic Tapes ii) Storage area network.

AR13

CODE: 13CE2006 SET-1

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, July-2019
STRENGTH OF MATERIALS-II
(Civil Engineering)

Time: 3 Hours **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) Write the maximum value of shear stress in thin cylinder.
   b) Write equations for radial stress as per Lame's theory
   c) What are assumptions made in the analysis of thick cylinders?
   d) Write short notes on compound cylinders and their boundary conditions.
   e) State the principal theories of failure.
   f) State the limitations of maximum shear stress theory.
   g) Define Polar section modulus
   h) Write the Polar Modulus for a solid shaft
   i) Write short notes on eccentric loading
   j) What is meant by equivalent length of a column?

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. a) Derive the stresses developed in thin cylindrical vessel subjected to internal pressure. 6m
   b) A thin cylinder 1.5 m internal diameter and 5 m long is subjected to an internal pressure of 2 N/mm^2. If the maximum stress is limited to 160 N/mm^2, find the thickness of the cylinder. E = 200 kN/mm^2 and Poisson's ratio = 0.3. Also find the changes in diameter, length and volume of the cylinder. 6m

(OR)

3. a) Derive expression for longitudinal stress and maximum shear stress developed in thin cylindrical vessel due to internal pressure 6m
   b) A thin cylindrical shell 3 m long has 1m internal diameter and 15 mm metal thickness. Calculate the circumferential and longitudinal stresses induced and also the change in the dimensions of the shell, if it is subjected to an internal pressure of1.5 N/mm^2 Take E = 2x10^5 N/mm2 and poison's ratio =0.3. Also calculate change in volume. 6m

UNIT-II

4. a) Derive the stresses developed in thick cylindrical vessel subjected to internal fluid pressure. 6m
   b) A cylindrical shell 3 m long which is closed at the ends has an internal diameter 1m and wall thickness of 15 mm. Calculate the change in dimensions and change in volume if the internal pressure is 1.5 N/mm^2,E = 2 x 10^5 N/mm^2, μ= 0.3. 6m

(OR)

5. a) Derive an expression for the radial pressure and hoop stress for thick spherical shell. 6m
   b) Determine the maximum hoop stress across the section of a pipe of external diameter 600mm and internal diameter 440mm. when the pipe is subjected to an internal fluid pressure of 50N/mm^2. 6m

UNIT-III

6. In a material the principal stresses are 60 MN/m^2, 48 MN/m^2 and – 36 MN/m^2. calculate 12m
   i. Total strain energy
   ii. Volumetric strain energy
   iii. Shear strain energy
   iv. Factor of safety on the total strain energy criteria if the material yields at 120 MN/m^2.
   Take E = 200 GN/m^2 and 1/m = 0.3

(OR)

7. a) Explain the Strain Energy Theory 6m
   b) The principal stresses at a point in material are 40N/mm^2 and 120 N/mm^2 both tensile. Find the normal and shear stress on a plane inclined at 30^0 to the plane of greater principal stress 6m

UNIT-IV

8. a) Derive expressions for polar modulus for a hollow circular shaft 6m
   b) Calculate the maximum stress in a propeller shaft with a 400mm external and 200mm internal diameter, when subjected to a twisting moment of 4650Nm. If the modulus of rigidity, C=82GN/m^2, how much is the twist in a length 20 times the diameter? 6m

(OR)

9. A hollow shaft of diameter ratio 3/5 is required to transmit 800kW at 110rpm. The maximum torque being 20% greater than the mean. The shear stress is not to exceed 63MPa and the twist in a length of 3m is not to exceed 1.4^0. Calculate the minimum external diameter satisfying these conditions. 12m

UNIT-V

10. a) Derive the equivalent length of a column for which both ends are fixed using Euler's theory. 6m
    b) Determine the safe axial load a timber column of cross-sectional area 150mm X 150mm and of 4m length can carry using a factor of safety, 8. Take E = 10kN/mm^2 and for (a)hinged ends (b) fixed ends 6m

(OR)

11. A steel strut of circular section is 2m long and hinged at both ends. Find the necessary diameter such that under a thrust of 100kN at an eccentricity of 0.1 of the diameter from the axis of the strut, the maximum compressive stress does not exceed 90kN/mm^2. If the yield stress in compression for steel is 400N/mm^2, find the crippling load of the strut. 12m

AR13 SET-1

Code: 13EE2009

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, July-2019
CONTROL SYSTEMS
(Electrical and Electronics Engineering)

Time: 3 Hours **Max Marks: 70**

PART-A

Answer all questions **[1 X 10 = 10 M]**

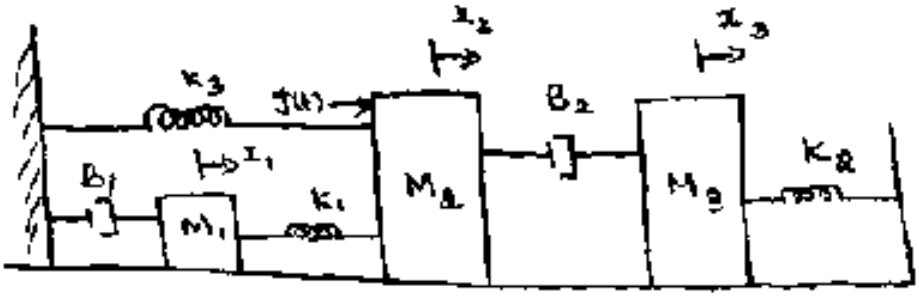
1. a) What is the difference between a open loop control and a closed loop control system?
   b) Find the inverse Laplace transform of F(S)=$\frac{1}{S^2+4S+8}$.
   c) How we do the Mapping from the S Plane to Z plane?
   d) What are the effects of PI controller.
   e) What is the compensating network why it is used.
   f) How Routh –Hurwitz criterion is helpful in determining the stability of a control system.
   g) Give the centroid and directions of asymptotes for root locus of a system whose open loop transfer function is K/S(S+1)(S+5).
   h) Define lead compensator with the help of its transfer function.
   i) Differentiate between order and type of a control system.
   j) Give the advantages and limitations of Nyquist stability criterion.

PART-B

Answer one question from each unit **[5 X 12=60M]**

UNIT-I

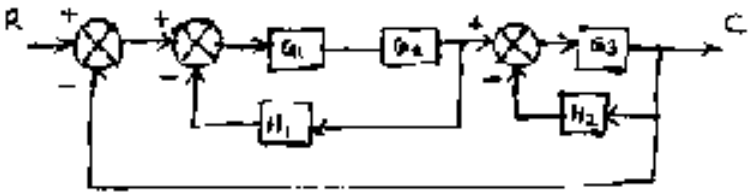
2. a) Obtain the transfer function of mechanical system shown in fig below [8M]



   b) Discuss the mathematical modeling of fundamental components of mechanical translational system. [4M]

(OR)

3. a) Using block diagram reduction technique, find C/R [12M]



UNIT-II

4. a) Derive all the time domain specifications [6M]
   b) Derive the transfer function for the field flux controlled DC servo motor. [6M]

(OR)

5. Evaluate the static error constants for a unity feedback system having a forward path transfer function $G(S) = \frac{50}{S(S+10)}$. Estimate the steady state errors of the system for the input r(t) given by $r(t)= 1+2t+t^2$. [12M]

UNIT-III

6. The open loop transfer function of a unity feedback system is given by $G(S) = \frac{K}{(S+2)(S+4)(S^2+6S+25)}$. By applying the Routh criterion, discuss the stability of the closed loop system as a function of 'K'. Determine the value of 'K' which will cause sustained oscillations in the closed loop system. What are the corresponding oscillation frequencies? [12M]

(OR)

7. Construct the root locus for the function , $G(S)H(S) = \frac{K(S+2)}{(S+1)(x+4)}$ And discuss about the stability of the system. [12M]

UNIT-IV

8. a) For the system with $G(S)H(S) = \frac{400}{S(S+2)(S+10)}$. Draw the polar plot. [8M]
   b) Explain how phase margin and gain margin are obtained from polar plot. [4M]

(OR)

9. Sketch the bode plot for the following transfer function and determine the phase margin and gain margin of the system $G(S) = \frac{10}{S(1+0.5S)(1+0.1S)}$. [12M]

UNIT-V

10. a) Draw the circuit diagram of a Lag compensator and obtain its transfer function, mention the advantages and drawbacks of Lag compensator. [8M]
    b) Derive the derivation for State Transition Matrix . [4M]

(OR)

a) Given the system $A = \begin{bmatrix} 0 & 1 \\ -2 & -3 \end{bmatrix}$ find out its state transition matrix.. [6M]

b) Given $A = \begin{bmatrix} 0 & -2 \\ 1 & -3 \end{bmatrix}$, $B = \begin{bmatrix} 1 \\ 1 \end{bmatrix}$, $C = [0 \quad 1]$ Find whether it is state Controllable (or) Observable [6M]

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AR13

CODE: 13ME2012 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, July-2019

MACHINE DRAWING
(Mechanical Engineering)

Time: 3 Hours **Max Marks: 70**

ANSWER ANY TWO QUESTIONS FROM PARTA AND PART B IS COMPULSORY

[2X 15=30Marks]

PART-A

1 Sketch the two views of a double riveted lap joint using rivets in zigzag arrangement. State why this arrangement is used. Thickness of the plates=10 mm; diameter of the rivets =20 mm. give all other dimensions.

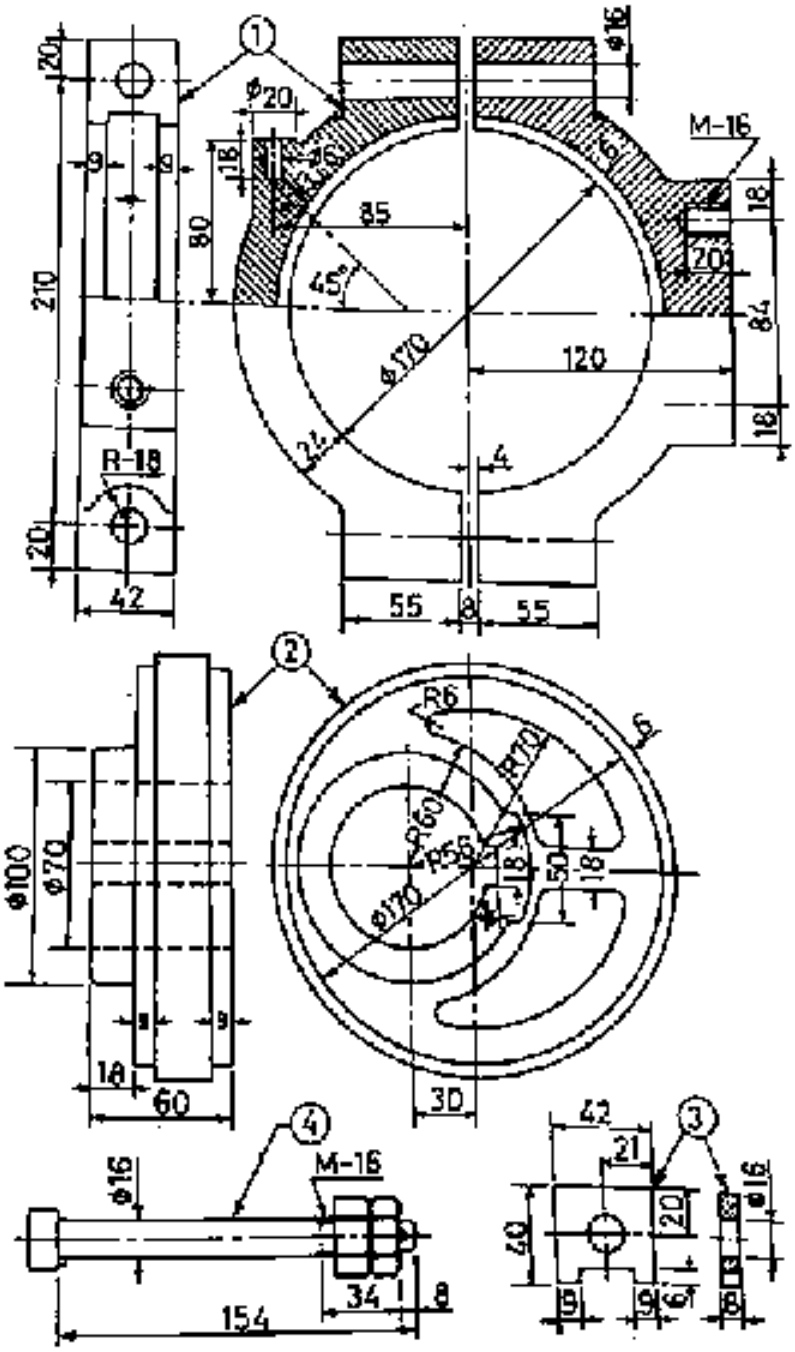
2. Sketch neatly a knuckle joint for connecting two rods of 40 mm diameter. Give all important dimensions.

3 (a) Differentiate between Acme thread and Buttress thread with relevant sketches and by denoting the dimensions in terms of the pitch of the screw.

(b) Show the representation of the Hexagonal headed bolt. Indicate all the dimensions in terms of the diameter D.

PART-B

4. Assemble together the parts of the eccentric shown below, and draw the following views: (i) half- sectional front view (ii) side view **[1x40=40M]**



Name of the part	Number	Material
Straps (in two parts)	1	CI
Sheave	1	CI
Shim	2	Brass
Straps	2	C 30

AR13

CODE: 13EC2010 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, July-2019

PULSE AND DIGITAL CIRCUITS
(Electronics and Communication Engineering)

Time: 3 Hours **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) Define time constant of a circuit?
   b) When does low pass circuit act as differentiator?
   c) What is meant double ended clipping?
   d) State clamping circuit theorem?
   e) Define storage time of a diode?
   f) What is the turn on time of a Transistor?
   g) Define quasi stable state?
   h) List the methods of triggering?
   i) How many types of blocking oscillators are there?
   j) What is sweep time?

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. a) An RC low-pass filter is fed with a symmetrical square wave. The peak-to-peak amplitude of the input waveform is 10 V and its average value is zero. It is given that RC=T/2 where T is the period of the square wave. Determine the peak-to-peak amplitude of the output waveform. 6
   b) Explain in detail about the Response of high pass filter with waveforms for pulse input. 6

(OR)

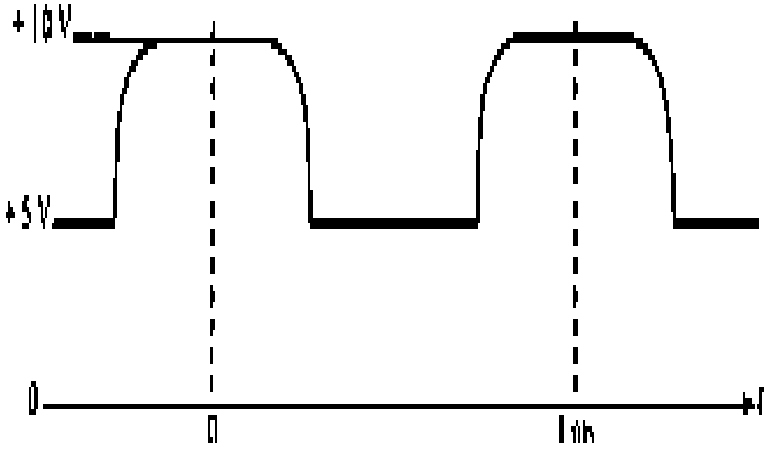
3. a) Explain in detail about the Response of low pass filter with waveforms for step input. 6
   b) Draw the circuit of Low passes RL circuit and explain 6

UNIT-II

4. a) Draw the circuit diagram of emitter coupled clipper and explain its working in detail. 6
   b) Classify the type of clamping circuits and explain in detail about positive clamping circuit 6

(OR)

5. a) Explain about voltage comparators with circuit diagram. 4
   b) Design a clipping circuit with ideal components, which can give the waveform shown in below figure for sinusoidal input. 8



UNIT-III

6. Inspect in detail about switching times of junction diode with required diagrams. 12

(OR)

7. a) Explain the working of fixed bias bistable multi vibrator with required diagrams. 8
   b) Explain about direct coupled binary. 4

UNIT-IV

8. a) Explain the working of collector coupled astable multivibrator with waveforms and derive the expression for its frequency of oscillations 12

(OR)

9. a) Draw the circuit for transistor Miller time base generator and explain in detail. 8
   b) What are the different methods of generating a time base wave form. 4

UNIT-V

10. Explain the working of monostable blocking oscillator with emitter timing. 12

(OR)

11. a) Illustrate the operation of unidirectional sampling gate for multiple inputs with neat circuit diagram 6
    b) Explain about Bi directional sampling gates using diodes. 6

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AR13

CODE: 13CS2005 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, July-2019

SOFTWARE ENGINEERING
(Common to CSE & IT)

Time: 3 Hours **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) Define waterfall model
   b) List out the levels of CMMI
   c) Differentiate between functional and non-functional requirements
   d) Define object models.
   e) List out the golden rules
   f) What are the types of reengineering activities
   g) What is the use of conventional software?
   h) What is the functionality of design model in product metrics?
   i) Define quality assurance in Quality management?
   j) Define ISO 9000 quality standards

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. a) Describe all the levels in SEI Capability maturity model. 6M
   b) Explain about Changing Nature of Software 6M

(OR)

3. a) Explain generic process framework for Software engineering 6M
   b) Demonstrate Incremental process models. 6M

UNIT-II

4. a) Describe the metrics to verify non-functional requirements. 8M
   b) Write about Requirements elicitation . 4M

(OR)

5. a) Explain the software requirement analysis and modelling 4M
   b) Describe various prototyping techniques and object oriented analysis and modelling principles. 8M

UNIT-III

6.	a)	Explain the importance of user interface design in sale of software	8M
	b)	Describe different types of coupling and cohesion.	4M
		(OR)	
7.	a)	Discuss the concept of software maintenance process.	8M
	b)	What is meant by SQA? Discuss in detail SQA activities.	4M

UNIT-IV

8.	a)	What are the various testing strategies to software testing? Discuss them briefly	8M
	b)	Explain the need for software measures and describe various metrics.	4M
		(OR)	
9.	a)	What is black box testing? Is it necessary to perform this? Explain various test activities.	6M
	b)	Explain in detail about COCOMO model.	6M

UNIT-V

10.	a)	What is software maintenance? How to control maintenance cost?	6M
	b)	Demonstrate about Formal Technical reviews in Quality management.	6M
		(OR)	
11.	a)	Explain in detail about software quality assurance	6M
	b)	Describe software maintenance activities and explain the re-engineering	6M

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