AR16

CODE: 16CE2009 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Supplementary Examinations, October / November-2020

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 beam of uniform section 10m long is simply supported at the ends. It carries point loads of 100 kN and 60 kN at a distance of 2m and 5m respectively from the left end. Calculate : i) The deflection under each load , ii) The maximum deflection, ii) Slope at A. Given E = $200x10^6$ N/m^2 and 118 x 10^{-4} m^4 **14 M**

(OR)

2. a) Derive the expression EI $d^2y/dx^2 = M$ **7 M**

   b) A cantilever 2.4 m long is loaded as shown if fig.2 Calculate the slope and deflection at the free end if the section is rectangular, 120mm x 240mm. Take E = 0.11 x 10^5 N/mm^2. **7M**

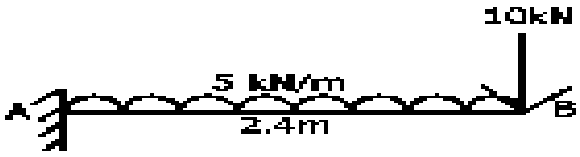


Fig. 1

UNIT-II

3. For the state of stress shown in Fig. 2, determine the principle stresses, maximum shear stress clearly show the planes on which these stresses act. **14 M**

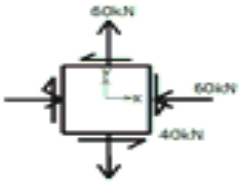


Fig. 2

(OR)

4. Find i) The principal planes and principal stresses . ii) The plane of maximum shear stress and its intensity for the element shown in fig. 3 by using mohr's circle method. **14 M**

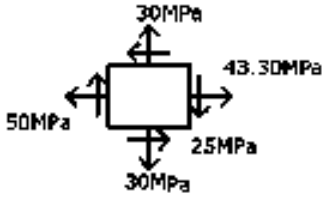


Fig. 3

UNIT-III

5. a) A cylindrical vessel whose ends are closed by means of rigid flange plates is made of steel plate 3mm thick. The internal length and diameter of vessel are 50cm and 25cm respectively. Determine the longitudinal and circumferential stress due to an internal fluid pressure of $3N/mm^2$. Also calculate increase in length, diameter and volume of the vessel. Take E = $200GN/m^2$ and 1/m = 0.30. **7 M**

   b) A spherical shell of 1.50m diameter has 1cm thick wall. Determine the pressure that can increase its volume by $100cm^3$, Take E = 200 GN/m^2, 1/m = 0.3 **7 M**

(OR)

6. a) What are thick cylinders Write the assumption in deriving lame's theory. Derive the Lame's formula. **7 M**

   b) A pipe 200mm internal diameter and 50 mm thick carries a fluid under pressure of 5 MPa . Calculate the maximum and minimum intensities of circumferential stress across the section. **7 M**

UNIT-IV

7. a) Derive Eulers' crippling load for a column subjected an axial load, if both ends fixed. **7M**

   b) A T section flange 120mm x 20mm, web 150 mm x 120 mm has a length L=4 m with fixed at its both ends. Calculate the Euler's crippling load. If 'E' of the material be 200Gpa. **7M**

(OR)

8. a) Define i) Buckling load ii) Slenderness ratio iii) Equivalent length of a column **6M**

   b) A hollow cylindrical column both ends fixed is 6m long and has an outer diameter of 120mm and inner diameter of 80mm. Compare crippling load obtained by Euler's and Rankine's formula. E = 80GPa, and σy = 550 MPa, Rankine's constant = 1/1600 **8M**

UNIT-V

9. Find the stresses at four corners at the section ABCD for the block shown in Fig.5, If P = 64 kN . Neglect the weight of the block. **14M**

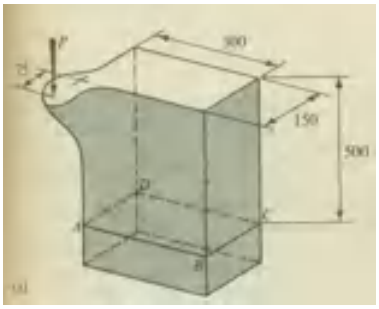


Fig. 5

(OR)

10. a) Find the kern of hollow cylindrical section has external diameter 'D' and internal diameter is 'd' **7 M**

    b) A hollow cast iron column of rectangular section 600mm deep and 300mm wide overall, thickness of metal 50mm carries a load of W in the vertical plane bisecting the width at an eccentricity e, If the extreme stresses induced in the section are 8 N/mm^2 at one end and 50 N/mm^2 at the other, both compressive. Evaluate 'W' and 'e'. **7M**

AR16

CODE: 16EE2011 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Regular & Supplementary Examinations, October / November-2020

POWER SYSTEMS – II

(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) Clearly explain what do you understand by GMR and GMD of a transmission line? 7M
   b) Calculate the capacitance per phase of a three phase, three wire system, when the conductors are arranged in a horizontal plane with spacing D12=D23=3.5m, and D13=7m. The conductors are transposed and each has a diameter of 2.0 cm. 7M

(OR)

2. a) Derive the expression of capacitance for 2 wire and 3 wire systems. 7M
   b) Calculate the capacitance of a conductor per phase of a three-phase 400 km long line, with the conductors spaced at the corners of an equilateral triangle of side 4 m and the diameter of each conductor being 2.5cm. 7M

UNIT-II

3. a) Show how regulation and transmission efficiency can be determined for medium lines using (i) nominal T method or (ii) nominal π Method. 7M
   b) A3 φ line delivers 3500 kW at 0.8 p.f lag to a load. The impedance of the line is (2+j5)Ω . If the sending end voltage is 33 kV, determine the receiving end voltage, line current and efficiency of the line. 7M

(OR)

4. a) Define A, B, C and D constants of a transmission line? What are their values in short lines. 7M
   b) A 3-phase, 3km long line delivers 3000 kW at a power factor of 0.8 lagging to a load. If the voltage at the supply end is 11 kV, determine the voltage at the load end, percentage regulation, sending end power factor and the efficiency of transmission. The resistance and reactance per km of each conductor are 0.4 ohm and 0.3 ohm respectively. 7M

UNIT-III

5. a) Signify the surge impedance and surge impedance loading (SIL) of a long transmission line. 7M

   b) A long transmission line which has resistance = 50 ohm, inductive reactance = 220 ohm and shunt admittance = 0.0025 S. Determine (i) sending end voltage,(ii) sending end current, (iii) sending end power factor and (iv) efficiency when the line is transmitting 40MVA at 0.85 p.f lagging at 220kV. 7M

(OR)

6. a) Explain the equivalent π method of solution for the performance of long transmission lines? 7M

   b) Fine the network constants of a long transmission line 3 phase, 50 Hz and 150 km long whose resistance per km is 0.2 Ω and inductance per km is 1.5 mH and capacitance per km is 0.008 μF. Neglect the conductance of the line. 7M

UNIT-IV

7. a) What are the various types of power system transients? Explain. 7M

   b) A certain 3-phase equilaterally spaced transmission line has a total corona loss of 55 kW at 110 kV and a loss of 110 kW at 120 kV. What is the disruptive critical voltage between lines? What is the corona loss at 125 kV? 7M

(OR)

8. a) What are skin and proximity effects on transmission lines? 7M

   b) 132kV overhead line conductor of radius 1cm is built so that corona takes place if the line voltage is 210 kV (r.m.s). If the value of voltage gradient at which ionization occurs can be taken as 21.21 kV (r.m.s) per cm, determine the spacing between the conductors. 7M

UNIT-V

9. a) Explain one method of equalizing potential distribution across string of insulators. 7M

   b) A 132 kV transmission line uses conductors whose data are cross sectional area is 2 cm^2, weight 844 kg/km, ultimate strength is 7950 kg. Calculate the height above the ground at which the conductors with a span of 300 meters should be supported, the factor of safety being 2, wind pressure 75 kg/m^2 of the projected area. Ground clearance required is 7 meters. 7M

(OR)

10. a) Derive expressions for Sag and tension in a power conductor Strung between two supports at equal heights taking into account the wind and ice loadings also. 7M

    b) A 3-phase transmission line is being supported by three disc insulators. The potentials across top unit(i.e. near to the tower) and middle unit are 8KV and 11KV respectively. Calculate. (i).The ratio of Capacitance between pin and earth to the self capacitance of each unit. (ii).The line voltage. (iii). String efficiency. 7M

AR16

CODE: 16ME2011 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, October / November-2020

MACHINE DRAWING
(Mechanical Engineering)

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

Section A (2x15=30Marks)

Note: Answer any two questions from section A and Section B is compulsory

1. Draw the sectional front view and side view of the socket and spigot joint to connect shafts of 30 mm diameter.

2. Sketch neatly, a sectional front view and top view of a single – riveted butt joint for two 10 mm thick plates, using two butt straps. Show all the dimensions on the sketch.

3. Draw the front and side views of the following:
   i) Sunk taper key (ii) Hexagonal-headed bolt with hexagonal nut and washer.

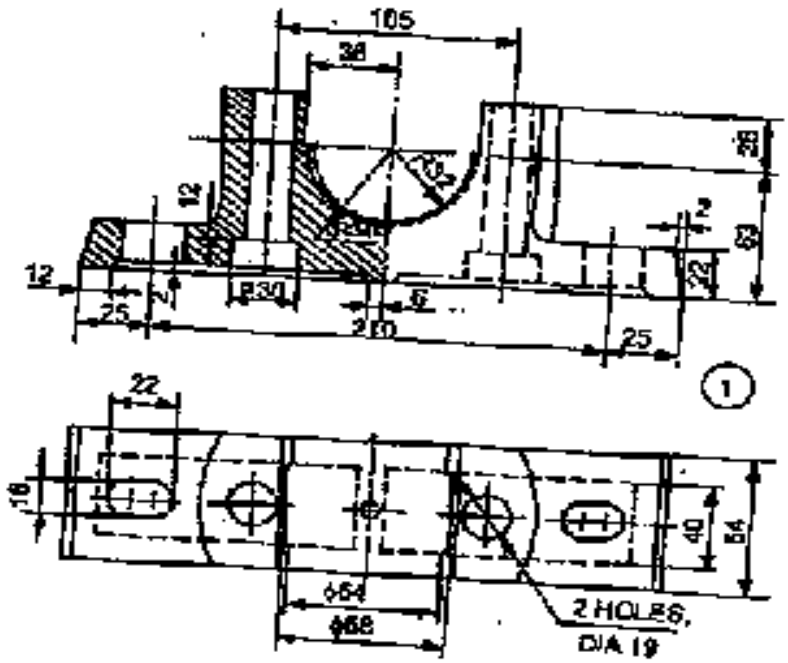
Section B

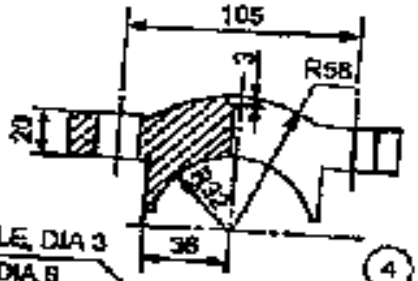
4. Draw the following views of a plummer block, suitable for supporting a shaft of diameter 50mm:

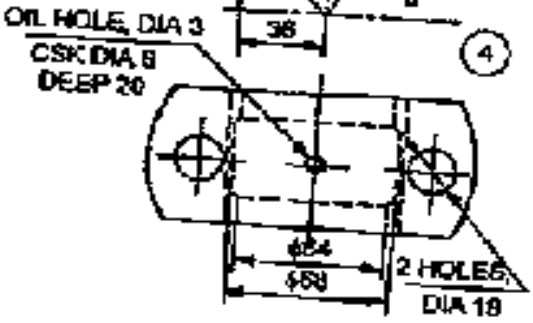
   (a) half sectional view from the front, with left half in section,

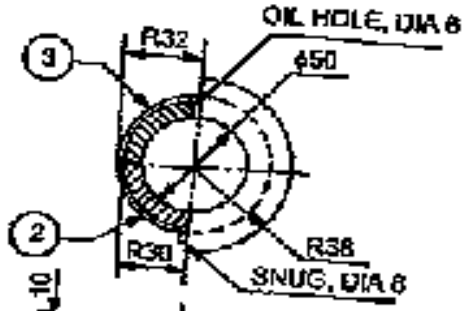
   (b) sectional view from the side, and

   (c) view from above. (40Marks)



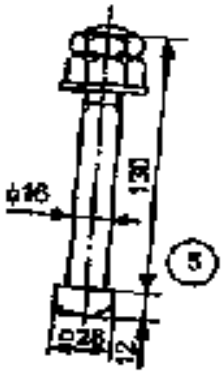


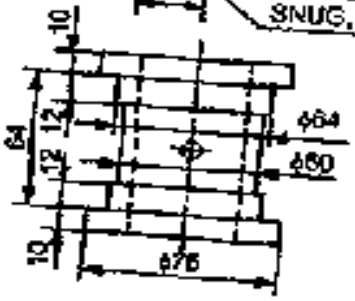




Parts list

Sl. No.	Name	Matl.	Qty.
1	Base	CI	1
2	Bearing brass	Bronze	1
3	Bearing brass	Bronze	1
4	Cap	CI	1
5	Bolt with nuts	MS	2





Plummer block

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AR16

CODE: 16EC2012 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Regular & Supplementary Examinations, October / November-2020

RANDOM VARIABLES AND STOCHASTIC PROCESSES

(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) Explain about conditional and joint probability. **7M**
   b) State and prove Bayes theorem **7M**

(OR)

2. a) State and Explain with necessary expressions, the Total Probability theorem **7M**
   b) Two manufacturing plants produce similar parts. Plant 1 produces 1,000 parts, 100 of which are defective. Plant 2 produces 2,000 parts, 150 of which are defective. A part is selected at random and found to be defective. What is the probability that it came from plant 1? **7M**

UNIT-II

3. a) Define and explain the Cumulative Distribution Function and its properties. **7M**
   b) State and explain the properties of probability density function. **7M**

(OR)

4. a) Explain in detail about Gaussian density function. **7M**
   b) Let X be a continuous r.v. X with pdf, **7M**

$$f_X(x) = \begin{cases} kx & 0 < x < 1 \\ 0 & \text{otherwise} \end{cases}$$ where k is a constant.

Find the value of k and P(1/4 <X≤1/2).

UNIT-III

5. a) State and prove central limit theorem for identical and independent random variables (consider two random variables case). **7M**
   b) The joint pdf of a bivariate r.v. (X, Y) is given by **7M**

$$f_{XY}(x,y) = \begin{cases} k(x+y) & 0 < x < 2; 0 < y < 2 \\ 0 & otherwise \end{cases}$$ where k is a constant.

   i. Find the value of k.
   ii. Find the marginal pdf's of X and Y.

(OR)

6. a) Differentiate between the marginal distribution functions, conditional distribution functions. **7M**

b) Probability density functions of two statistically independent random variables X and Y are $f_X(x) = ½\ u(x-1)e^{-(x-1)/2}$ and $f_Y(y) = ¼\ u(y-3)e^{-(y-3)/4}$. Find the probability density of the sum W = X + Y **7M**

UNIT-IV

7. a) Explain stationary random process in detail. **7M**

b) If $Y_1(t) = X_1\cos\omega t + X_2\sin\omega t$ and $Y_2(t) = X_1\sin\omega t + X_2\cos\omega t$ where X_1 and X_2 are zero mean independent random variables with unity variance. Show that the random processes $Y_1(t)$ and $Y_2(t)$ are individually WSS. **7M**

(OR)

8. a) Derive the expression for autocorrelation function? Explain its properties in detail. **7M**

b) A random process $Y(t) = X(t)-X(t+\tau)$ is defined in terms of a process. X(t) that is at least WSS. (i) show that mean value of Y(t) s zero even if X(t) has a non zero mean value. (ii) If $Y(t) = X(t)+X(t+\tau)$. Find E(Y(t)] and σ^2 of Y. **7M**

UNIT-V

9. a) Derive the relation between auto correlation and power spectral density. **7M**

b) The cross spectral density of two random process X(t) and Y(t) is $Sxy(\omega) = 1+ (j\omega/k)$ for $-k<\omega<k$, and zero elsewhere, where $k>0$. Find the cross correlation function between the processes. **7M**

(OR)

10. a) State and prove the properties of power spectral density. **7M**

b) Suppose process Y(t) consists of a desired signal X(t) plus noise N(t): Y(t) = X(t) + N(t). Find the cross-correlation between the observed signal and the desired signal assuming that X(t) and N(t) are independent random processes. **7M**

AR16

CODE: 16CS2008 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Regular & Supplementary Examinations, October / November-2020

DATABASE MANAGEMENT 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 DBMS. What are applications of DBMS? Write the history of DBMS. 7M
   b) Describe instances and schemas. Explain about database languages. 7M

(OR)

2. a) Discuss abstract view of data with diagram. 7M
   b) What are data models? Explain in detail. 7M

UNIT-II

3. a) Explain conceptual database design with ER model. 7M
   b) Describe relational database design using ER to relational mapping. 7M

(OR)

4. a) Write about different types of attributes in ER model. Show the notation of each. 4M
   b) What is a weak entity type? How to model it? Explain with suitable example. 4M
   c) Discuss in detail about the concepts of E-R model with suitable examples. 6M

UNIT-III

5. a) Given the following Schema, create a table in SQL

Column name	Data type	Size	Attribute
S_order no	Varchar2	6	Primary key/first letter must start with 'O'
S_order_date	Date		
Client_no	Varchar2	6	Foreign key references client_no of client_master table
Dely_Addr	Varchar2	25	
Salesman_no	Varchar2	6	Foreign key references salesman_no of salesman_master table
Dely_type		1	Delivery:part(P)/full(F), default 'F'
Billed_yn		1	
Dely_date			Cannot be less than s_order_date
Order_status	Varchar2	10	Values('In Process','Fulfilled', 'BackOrder', 'Cancelled')

7M

Assume that all tables that are mentioned as foreign keys are in existence.

   b) Differentiate between Nested and Correlated Queries. Explain with an example. 7M

(OR)

6. a) What is SQL? Describe the form of a basic SQL query. 7M
   b) What is Trigger? Why is it needed to create a Trigger? What are its advantages? Explain using an example. 7M

UNIT-IV

7. a) Explain in detail about lock-based concurrency control. 10M
   b) Discuss about ACID Properties. 4M

(OR)

8. a) Briefly discuss the 2 phase locking protocol used in concurrency control. 7M
   b) Explain briefly about 3NF, 4NF and BCNF with suitable examples. 7M

UNIT-V

9. a) Explain Indexed Sequential Access Methods (ISAM). 6M
   b) Mention various types of records. Describe how they are organized inside a file? 8M

(OR)

10. a) Discuss in detail about primary file organization. 7M
    b) What is the difference between single level index & multi level index with examples? 7M

AR13

CODE: 13CE2006 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Supplementary Examinations, October / November-2020

STRENGTH OF MATERIALS-II

(Civil Engineering)

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

PART-A

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

1. a) Define thin cylinders. Name the stresses set up in a thin cylinder subjected to internal fluid pressure.
   b) What do you mean by a thick compound cylinder?
   c) What are the different methods of reducing hoop stresses?
   d) Define the terms: Principal planes and principal stresses.
   e) Write a note on Mohr's circle of stresses.
   f) Define the terms: Torsion, torsional rigidity and polar moment of inertia.
   g) Write an expression for the shear stress produced in a circular shaft which is subjected to torsion.
   h) What do you mean by 'strength of a shaft'?
   i) Define the terms: column, strut and crippling load.
   j) What is 'equivalent length of a column'? How is the concept used in the column theory?

PART-B

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

UNIT-I

2. a) A cylindrical shell is subjected to internal fluid pressure, find an expression for change in diameter and change in length of the cylinder.
   b) A thin cylinder of internal diameter 1.25m contains a fluid at an internal pressure of 2N/mm^2. Determine the maximum thickness of the cylinder if:
      i) The longitudinal stress is not to exceed 30 N/mm^2.
      ii) The circumferential stress is not to exceed 45 N/mm^2.

(OR)

3. A thin cylindrical tube 80mm internal diameter and 5mm thick, is closed at the ends and is subjected to an internal pressure of 6 N/mm^2. A torque of 2009600Nmm is also applied to the tube. Find the hoop stress, longitudinal stress, maximum and minimum principal stresses and the maximum shear stress.

UNIT-II

4. a) Prove that the original difference in radii at the junction of a compound cylinder for shrinkage is given by

$$dr = 2r/E(a_1 - a_2)$$

   a_1 and a_2 are constants of inner cylinder and outer cylinder
   b) Find the thickness of metal necessary for a cylindrical shell of internal diameter 160mm to withstand an internal pressure of 8 N/mm^2. The maximum hoop stress in the section is not exceed 35 N/mm^2.

(OR)

5. A steel cylinder o 300 mm external diameter is to be shrunk to another steel cylinder of 500 mm internal diameter. After shrinking, the diameter at the junction is 250mm and radial pressure at the common junction is 28 N/mm^2.Find the original difference in radii at the junction. Take E=2 × 10^5 N/mm^2.

UNIT-III

6. a) A body is subjected to direct stresses in two mutually perpendicular directions accompanied by a simple shear stress. Draw the Mohr's circle of stresses and explain how you will obtain the principal stresses and principal planes.

b) A rectangular block of material is subjected to a tensile stress of 110 N/mm^2 on one plane and a tensile stress of 47 N/mm^2 on the plane at right angles at the former. Each of above stresses is accompanied by a shear stress of 63 N/mm^2 and that associated with the former tensile stress tends to rotate the block anticlockwise. Find:

i) the direction and magnitude of each of the principal stress and

ii) magnitude of the greatest shear stress.

(OR)

7. Determine the principal stresses on an inclined plane with neat sketches.

UNIT-IV

8. a) Prove that the torque transmitted by a solid shaft when subjected to torsion is given by

$$T = \pi/16 \, \tau \, D^3$$

Where D= Dia. of solid shaft and

τ = Max. shear stress.

b) Two shafts of the same material and of same lengths are subjected to the same torque, if the first shaft is of a solid circular section and the second shaft is of hollow circular section, whose internal diameter is 2/3 of the outside diameter and the maximum shear stress developed in each shaft is the same, compare the weights of the shafts.

(OR)

9. A hollow shaft, having an inside diameter 60% of its outer diameter, is to replace a solid shaft transmitting the same power at the same speed. Calculate the percentage saving in material, if the material to be used is also the same.

UNIT-V

10. a) Derive expression for Euler's buckling load for a long column of length L with both ends fixed, from first principle.

b) Determine the Euler's crippling load for an I-section joist 40cm ×20cm ×1cm and 5m long which is used as a strut with both ends fixed. Take Young's modulus for the joist as 2.1×10^5 N/mm^2.

(OR)

11. A column of circular section is subjected to a load of 120kN. The load is parallel to the axis but eccentric by an amount of 2.5mm.The external and internal diameters of columns are 60mm and 50mm respectively. If both the ends of the column are hinged and column is 2.1m long, then determine the maximum stress in the column. Take E = 200GN/m^2.

AR13

CODE: 13ME2012 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

II B.Tech II Semester Supplementary Examinations, October / November-2020

MACHINE DRAWING

(Mechanical Engineering)

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

PART-A

Answer Any Two Questions, Each Question Carries 15 Marks **[2 x 15 =30M]**

1. Sketch the following types of keys in two views, as fitted in position between a shaft and the mounting. Choose the shaft diameter as 30 mm and the hub diameter of the mounting as 60 mm:

   (*a*) hollow saddle key(*b*) flat saddle key

2. Sketch the following forms of nuts, with proportions marked:

   (*a*) flanged nut(*b*) dome nut

3. Draw the sectional view from the front, and view from the side of a cotter joint with sleeve used to connect two rods of 50 mm diameter each.

PART-B

Question No 4 Compulsory and carries 40 Marks **[1x40=40M]**

4. Draw the following views of a plummer block, suitable for supporting a shaft of diameter 50mm:

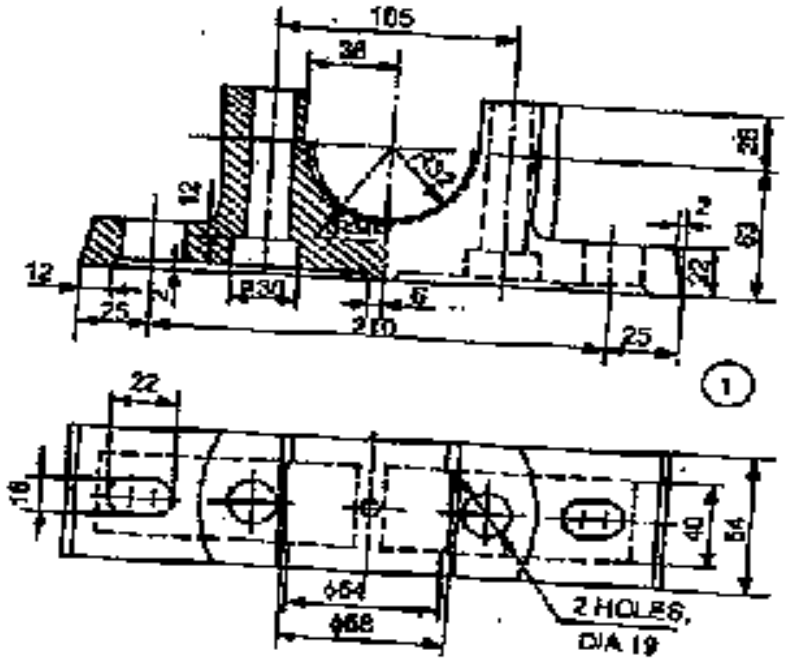
   (*a*) half sectional view from the front, with left half in section,

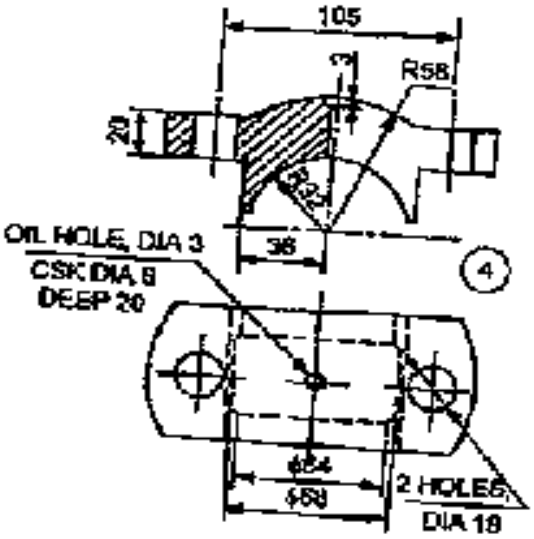
   (*b*) sectional view from the side, and

   (*c*) view from above.

AR13

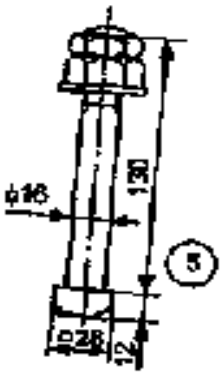
CODE: 13ME2012 **SET-1**

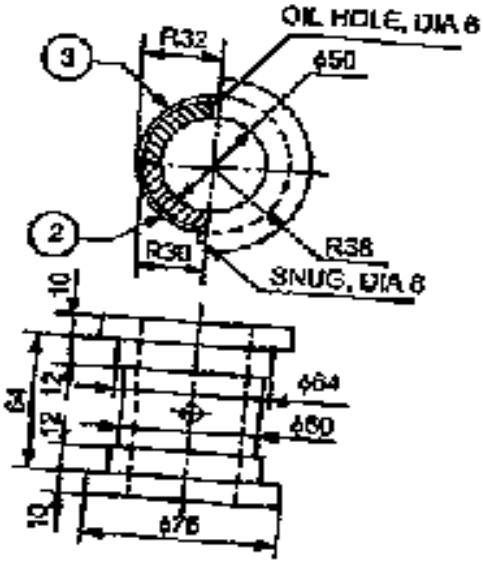




Parts list

Sl. No.	Name	Matl.	Qty.
1	Base	CI	1
2	Bearing brass	Bronze	1
3	Bearing brass	Bronze	1
4	Cap	CI	1
5	Bolt with nuts	MS	2





Plummer block

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AR13

CODE: 13EC2010 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
II B.Tech II Semester Supplementary Examinations, October / November-2020

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) What is non-linear wave shaping.
   b) The input to a low pass RC circuit is a step signal of voltage V. Write the expression for the output voltage
   c) Explain the operation of positive clamper
   d) What are the other names of the clippers.
   e) Define rise time and transition time of a diode.
   f) What is a multivibrator?
   g) List the types of different multivibrators.
   h) Write a basic principle of time base generator.
   i) What is the principle of blocking oscillator?
   j) What do you mean by pedestal?

PART-B

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

UNIT-I

2. a) What is the ratio of the rise time of the 3 sections in cascade to the rise time of single section of low pass RC circuit? 6
   b) A pulse of amplitude 10V and duration 10μsec is applied to a high pass RC circuit. Sketch the response of the circuit for RC= t_p and Rc=0.5t_p. 6

(OR)

3. a) Derive and draw the necessary wave forms for the response of High pass RC circuit to square wave input 6
   b) What is an attenuator? How can an uncompensated attenuator be modified as a compensated attenuator. 6

UNIT-II

4. a) Explain the working of a two-level diode clipper with the help of circuit diagram,waveform and transfer characteristics. 6
   b) Draw the basic circuit diagram of positive peak clamper circuit and explain its operation. 6

(OR)

5. a) Determine the output waveform for the biased clipping circuit for the square wave input. 6
   b) What is synchronized clamping? explain. 6

UNIT-III

6. a) Explain the switching characteristics of diodes? 6
   b) Explain the principle of operation of self-biased transistor binary circuit. 6

(OR)

7. a) A fixed bias Bi-stable multivibrator circuit uses a DC supply of ±12 V, R_C=2kΩ, R_1=10kΩ and R_2=47kΩ. NPN silicon transistor with $V_{CE(sat)}$ = 0.1 V, $V_{BE\ (sat)}$ = 0.7 V and $h_{FE\ (min)}$=30 are used. Draw the circuit diagram and show the stable state currents assuming that transistor Q_1 is OFF and Q_2 is ON. 8
   b) For the above problem Calculate all currents and voltages and verify the device states. 4

UNIT-IV

8. a) Explain how to draw the various wave forms and calculate their voltage levels in an emitter coupled monostable multivibrator. 6
   b) Explain the working of Bootstrap sweep circuit. 6

(OR)

9. a) Explain the working of Astable multivibrator as a voltage controlled oscillator. 6
   b) Explain the working of Transistor Miller sweep circuit. What are its advantages over Bootstrap sweep circuits? 6

UNIT-V

10. a) Discuss the methods of controlling output current pulse width in blocking oscillators. 6
    b) Draw the circuit diagram of a unidirectional sampling gate and explain its working. 6

(OR)

11. a) Explain the operation of free running blocking oscillator (diode control) with neat sketch of current and voltage wave forms. 6
    b) Distinguish between logic gate and sampling gate 6

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