LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
(AUTONOMOUS)
L.B. Reddy Nagar :: Mylavaram-521 230 :: NTR Dist. :: A.P
Approved by AICTE, New Delhi. Affiliated to JNTUK, Kakinada

B.Tech. (II Semester) (R17) Semester End Examinations (Supplementary) - April 2026
(2018 & 2019 Regular admitted batches only)

R17

TIME TABLE

TIME : 02.00 PM to 05.00 PM **A.Y. 2025-26**

DATE	22-04-2026 (Wednesday)	23-04-2026 (Thursday)	24-04-2026 (Friday)	25-04-2026 (Saturday)	27-04-2026 (Monday)
ASE	17FE02 - Professional Communication-II	17FE06 - Transformation Techniques and Vector Calculus	17FE14 - Applied Chemistry	17EE50 - Basic Electrical and Electronics Engineering	17ME02 - Engineering Mechanics
CE	17FE02 - Professional Communication - II	17FE06 - Transformation Techniques and Vector Calculus	17FE14 - Applied Chemistry	17CE02 - Applied Mechanics	17CE03 - Surveying
CSE	17FE02 - Professional Communication-II	17FE06 - Transformation Techniques and Vector Calculus	17FE12 - Applied Physics	17EE52 - Basic Electrical Engineering	17CI02 - Digital Logic Design
ECE	17FE02 - Professional Communication-II	17FE06 - Transformation Techniques and Vector Calculus	17FE12 - Applied Physics	17EC03 - Analog Electronic Circuits	17EC04 - Digital Electronic Circuits
EEE	17FE02 - Professional Communication - II	17FE06 - Transformation Techniques and Vector Calculus	17FE14 - Applied Chemistry	17ME51 - Thermal and Hydro Prime Movers	17EE01 - Electronic Circuits and Devices
EIE	17FE02 - Professional Communication-II	17FE06 - Transformation Techniques and Vector Calculus	17FE12 - Applied Physics	17EI01 - Material Science and Engineering	17EC02 - Electronic Devices and Circuits
IT	17FE02 - Professional Communication - II	17FE06 - Transformation Techniques and Vector Calculus	17FE12 - Applied Physics	17EE52 - Basic Electrical Engineering	17CI05 - Data Structures
ME	17FE02 - Professional Communication - II	17FE06 - Transformation Techniques and Vector Calculus	17FE14 - Applied Chemistry	17EE52 - Basic Electrical Engineering	17ME02 - Engineering Mechanics

Note: Any omissions or clashes in the time table may please be informed to the Controller of Examinations immediately.

Date: 01 APR 2026

CONTROLLER OF EXAMINATIONS

PRINCIPAL

Copy to: 1. Vice-Principal, Deans & HoDs 2. T&P cell, Transport in-charge & Librarian
3. Canteen, PD, Security & Hostels 4. Coordinator-Disciplinary 5. Notice Boards

H.T.No | | | | | | | | | | |

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LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)

L.B. Reddy Nagar :: Mylavaram – 521 230 :: NTR Dist.:: A.P.

B.Tech. (II Semester) Supplementary Examinations

17FE06-TRANSFORMATION TECHNIQUES AND VECTOR CALCULUS

(Common to All)

Time : 3 hours | Max. Marks : 60

Answer one question from each unit

All questions carry equal marks

Q.No.	Questions	Marks	CO	BL
1(a)	Solve $\frac{d^2y}{dt^2} - 4\frac{dy}{dt} - 12y = e^{3t}$, given that $y(0) = 1, y'(0) = -2$ applying Laplace transformations.	6M	CO1	L3
(b)	Find $L\{e^{2t}sin2tcos3t\}$.	6M	CO1	L2
	(OR)			
2(a)	Use Laplace transform to solve $\frac{d^2x}{dt^2} + 5\frac{dx}{dt} + 6x = 5e^t$ with $x = 2, \frac{dx}{dt} = 1$ at $t = 0$.	6M	CO1	L3
(b)	Find $L\{te^{-2t}cos2t\}$.	6M	CO1	L2
3(a)	Derive $Z\{cos\, n\theta\}$ and applying damping rule find $Z\{a^n cos\, n\theta\}$.	6M	CO2	L2
(b)	Solve $y_{n+2} - 2y_{n+1} + y_n = 2^n$ with $y_0 = 2$, $y_1 = 1$ using Z-transforms.	6M	CO2	L3
	(OR)			
4(a)	Find $Z\{5^n cos\, n\theta\}$.	6M	CO2	L2
(b)	Applying Convolution theorem find $Z^{-1}\left[\frac{z^2}{(z-3)(z-5)}\right]$	6M	CO2	L3
5(a)	Evaluate $\int_{-1}^{1}\int_{0}^{z}\int_{x-z}^{x+z}(x+y+z)dxdydz$	6M	CO3	L2
(b)	Evaluate $\int_{0}^{1}\int_{1}^{2-x} xy\,dy\,dx$ by change of order of integration.	6M	CO3	L3
	(OR)			
6(a)	Evaluate $\int_{0}^{1}\int_{0}^{x}\int_{0}^{x+y}(x+y+z)\,dz\,dy\,dx$.	6M	CO3	L2
(b)	Find the area of the region bounded by the parabolas $y^2 = 4ax$ and $x^2 = 4ay$	6M	CO3	L3
7(a)	Find the directional derivative of $\phi = xy^2+yz^3$ at the point(2,-1,1) in the direction of the normal to the surface $xlogz - y^2 = -4$ at (-1,2,1)?	6M	CO4	L2
(b)	Prove that curl (gradϕ) = $\bar{0}$.	6M	CO4	L1
	(OR)			
8(a)	Find the directional derivative of $f = xyz$ in the direction of the vector $\vec{i}+\vec{j}+\vec{k}$ at the point (1, 1, 1).	6M	CO4	L2
(b)	Find the constants a and b so that the surface $ax^2-byz = (a+2)x$ is orthogonal to the surface $4x^2y+z^3 = 4$ at the point (1,-1, 2).	6M	CO4	L1
9.	Verify by Green's theorem $\int_c (x^2 - \cosh y)dx + (y + \sin x)dy$ where c is the rectangle with vertices $(0,0), (\pi,0)(\pi,1)$ and (0, 1)	12M	CO4	L3
	(OR)			
10.	Verify Stoke's Theorem for $\vec{F} = (x^2+y^2)\vec{i} - 2xy\vec{j}$ taken around the rectangle bounded by the lines $x = \pm a$, $y = 0$, $y = b$.	12M	CO4	L3

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LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
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L.B. Reddy Nagar :: Mylavaram – 521 230 :: NTR Dist.:: A.P.

B.Tech. (II Semester) Supplementary Examinations

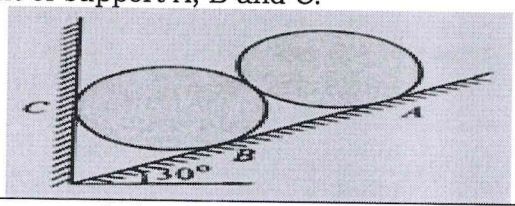
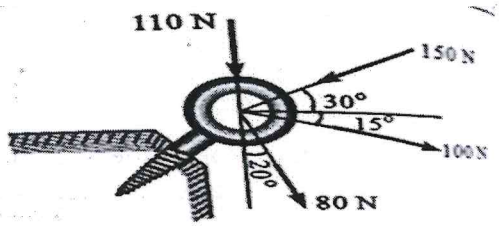
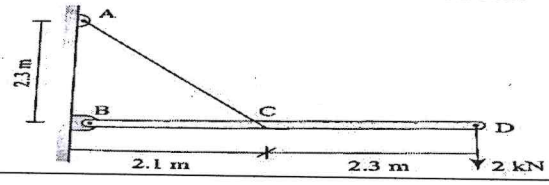
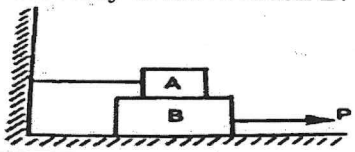
17CE02-APPLIED MECHANICS

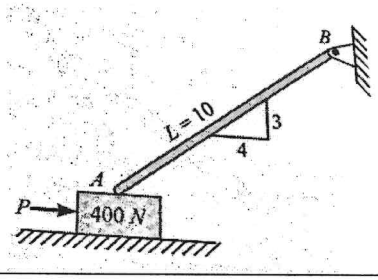
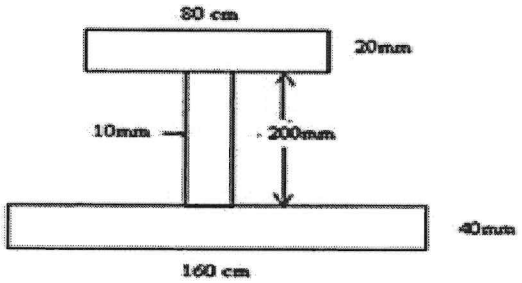
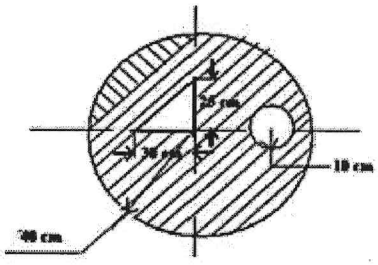
(CE)

Time : 3 hours | Max. Marks : 60

Answer one question from each unit

All questions carry equal marks

Q.No	Questions	Marks	CO	BL
1(a)	Define the term force and explain its characteristics with examples.	6M	CO1	L2
(b)	The magnitude of the resultant of two given forces of magnitude P and Q is R. If P is doubled, then R is doubled. If Q is doubled and reversed, then also R is doubled. Show that P:Q:R=√6:√2:√5.	6M	CO1	L3
	(OR)			
2(a)	State and prove Lami's theorem.	6M	CO1	L2
(b)	Two forces P_1 and P_2 acting at a point have a resultant R. If P_2 be doubled, R is doubled. Again, if the direction of P_2 is reversed, then R is doubled, show that P_1: P_2 : R =√2 : √3 : √2.	6M	CO1	L3
3(a)	Two identical rollers of weight 500N are supported by an inclined plane and a vertical wall as shown in fig. Assuming smooth surfaces, find the reactions induced at the point of support A, B and C. 	6M	CO2	L2
(b)	Four forces act on an eye bolt as shown in fig. Determine the resultant and direction. 	6M	CO2	L3
	(OR)			
4(a)	Explain the different types of support and loading on a beam.	6M	CO2	L2
(b)	A weightless beam BCD is held with the help of a tie rod AC shown in fig. Determine the reaction at B and tension in the tie rod AC. 	6M	CO2	L3
5(a)	Explain the laws of static and dynamic friction.	6M	CO3	L2
(b)	Block A weighing 1200N rests on block B and is tied with horizontal string to the wall as shown in fig, Block B weighs 2400N. If the coefficient of friction between A and B is 0.25 and between B and surface is 0.35, Determine out the horizontal force P is necessary to move block B. 	6M	CO3	L3
	(OR)			

6(a)	A body resting on a rough horizontal plane and required a pull of 180N inclined at 30^0 to the plane just to move it. It was found that a push a 220N inclined at 30^0 to the plane just moved the body. Determine the weight of the body and the coefficient of friction.	6M	CO3	L3
(b)	A uniform bar AB, 10m long and weighing 280N,is hinged at B and rests upon a 400N block at A as shown in fig.If the coefficient of friction is 0.40 at all contact surfaces, Determine the horizontal force P required to start moving the 400N block. 	6M	CO3	L3
7.	Determine the moment of inertia of the given figure about centroidal X and Y axis. 	12M	CO4	L5
	(OR)			
8.	Evaluate the centroid of the shaded area 	12M	CO4	L5
9.	A motorist is traveling at 80 Kmph, when he observes a traffic light 200m ahead of him turns red. The traffic light is timed to stay red for 10seconds. If the motorist wishes to pass the light without stopping, just as it turns green, determine, (i) The required uniform deceleration of the motor and (ii) The speed the motor as it passes the light.	12M	CO5	L5
	(OR)			
10(a)	A stone is thrown vertically upwards from the ground with a velocity 49m/s. After 2 seconds another stone vertically upwards from the same place. If both the stone strike the ground at the same time, Determine the velocity with which the second stone was thrown upwards.	6M	CO5	L3
(b)	A car moves along a straight line whose equation of motion is given by $s=12t+3t^2-2t^3$, where s is in meters and t is in seconds. Calculate (i) Velocity and acceleration at a start, and (ii) acceleration, when the velocity is zero.	6M	CO5	L3

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LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)

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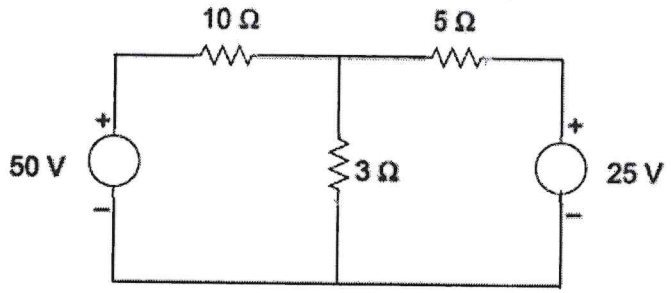
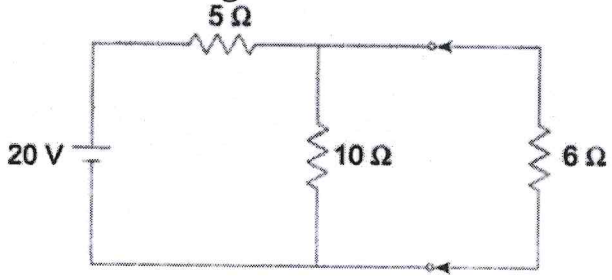
B.Tech. (II Semester) Supplementary Examinations

17EE52-BASIC ELECTRICAL ENGINEERING

Time : 3 hours (CSE, IT & ME) Max. Marks : 60

Answer one question from each unit

All questions carry equal marks

Q.No	Questions	Marks	CO	BL
1(a)	Summarize the types of energy sources used in electrical circuits.	6M	CO1	L1
(b)	When a dc voltage is applied to a capacitor, the voltage across its terminals is found to build up in accordance with $V_C = 50(1 - e^{-100t})$. After a lapse of 0.01s, the current flow is equal to 2 mA. (i) Find the value of capacitance in microfarads (ii) How much energy is stored in the electric field at this time?	6M	CO1	L3
	(OR)			
2(a)	Discuss Kirchhoff's current law in briefly with example.	6M	CO1	L2
(b)	Define the following: (i) Electrical circuit (ii) Current (iii) Energy (iv) Power (v) Voltage (vi) Charge.	6M	CO1	L1
3(a)	State Norton's theorem and discuss the steps followed to determine the load current.	6M	CO1	L2
(b)	For the resistive network shown in the fig, find the current through 3Ω resistor using superposition theorem. 	6M	CO1	L3
	(OR)			
4(a)	State maximum power transfer theorem and derive the equation of maximum power delivered to the load.	6M	CO1	L2
(b)	Determine the voltage across 6Ω resistor using Norton's theorem for the following circuit. 	6M	CO1	L3

5(a)	Define (i) Instantaneous value)ii) Cycle (iii) Time period.	6M	CO1	L1
(b)	Determine the following parameters of a voltage v = 200 sin314t. (i) Frequency (ii) Form factor (iii) Crest factor.	6M	CO1	L2
	(OR)			
6(a)	Illustrate the crest factor and form factor of a sine-wave.	6M	CO1	L2
(b)	An AC circuit consists of a pure resistance of 10Ω and is connected across an AC supply of 230V, 50Hz. Calculate (i) Current (ii) Power consumed (iii) Power factor (iv) write down the equations for voltage and current.	6M	CO1	L3
7(a)	List the common features of rotating electrical machines.	6M	CO2	L2
(b)	Discuss the elementary concept of a generator.	6M	CO2	L1
	(OR)			
8(a)	Discuss the elementary concept of a motor.	6M	CO2	L1
(b)	Describe the torque production in single phase induction machine.	6M	CO2	L2
9(a)	Discuss the principle of operation of 3-phase induction motor.	6M	CO3	L2
(b)	Distinguish between gravity and spring control systems.	6M	CO4	L2
10(a)	Write the advantages and disadvantages of PMMC instrument	6M	CO4	L2
(b)	Discuss various losses present in a single phase transformer.	6M	CO3	L2

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LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)

L.B. Reddy Nagar :: Mylavaram – 521230 :: Krishna Dist.:: A.P.

B.Tech. (II Semester) Supplementary Examinations

17ME51-THERMAL AND HYDRO PRIME MOVERS

(EEE)

Time : 3 hours Max. Marks : 60

Answer one question from each unit

All questions carry equal marks

Q.No	Questions	Marks	CO	BL
1(a)	Elaborate the equivalence of Kelvin-Planck and Clausius statements.	6M	CO1	L5
(b)	If a gas of volume 6000 cm^3 and at a pressure of 100 K Pa is compressed quasistatically according to PV^2 = constant until the volume becomes 2000 cm^3, determine the final pressure and the work transfer.	6M	CO1	L4
	(OR)			
2(a)	What is thermodynamic system? What is the difference between a closed system and a open system? Give few examples for closed and open systems.	6M	CO1	L1
(b)	Show that the COP of a heat pump is greater than the COP of a refrigerator by unity, when working between same temperatures.	6M	CO1	L2
3(a)	Enumerate the advantages and disadvantages of gas turbines over steam turbines.	6M	CO2	L2
(b)	In an air standard gas turbine engine air at a temperature of 15^0C and pressure of 1.01bar enters a compressor, where it is compresses through a pressure ratio of 5. Air enters the turbine at a temperature of 815^0C and expands to original pressure of 1.01bar. Evaluate the ratio of turbine work to the compressor work and thermal efficiency when the engine operates on Brayton cycle.	6M	CO2	L3
	(OR)			
4(a)	Illustrate the ideal and actual valve timing diagrams.	6M	CO3	L1
(b)	An I.C Engine uses 6kg of fuel having calorific value 44000kJ/kg in one hour. The I.P developed is 18kW. The temperature of 11.5kg of cooling water was found to rise through 25^0C per minute. The temperature of 4.2kg of exhaust gas with specific heat 1kJ/kg was found to rise through 220^0C. Draw the heat balance sheet for the engine.	6M	CO3	L3
5(a)	Steam with absolute velocity of 300m/sec is supplied through nozzle to a single stage turbine, the nozzle angle is 25^0. The mean diameter of the blade rotor is 1m and it has a speed of 2000RPM. Estimate the suitable blade angles and power developed by the turbine for zero axial thrust. If the baled velocity coefficient is 0.9 and the steam flow rate 10Kg/sec.	6M	CO2	L3

(b)	Embellish single stage impulse turbine and identify the variation of pressure and velocity along the axial direction.	6M	CO2	L1
	(OR)			
6(a)	Illustrate the concept of velocity compounding.	6M	CO2	L1
(b)	In a De Laval turbine, steam issues from the nozzle with a velocity of 1200m/sec, the nozzle angle is 20^0, the mean blade velocity is 400m/sec and the inlet and outlet angles are equal. The mass of steam flowing through the turbine per hour is 1000kg. Evaluate blade angle, Power developed and blade efficiency.	6M	CO2	L3
7(a)	Formulate an expression for continuity equation.	6M	CO1	L2
(b)	A simple U-tube manometer containing mercury is connected to a pipe in which a fluid of specific gravity 0.8 and having vacuum pressure is flowing. The other end of the manometer is open to atmosphere. Estimate the vacuum pressure in pipe, if the difference of mercury level in the two limbs is 40 cm and the height of fluid in the left from the centre of pipe is 15 cm below.	6M	CO1	L3
	(OR)			
8(a)	Illustrate simple 'U'-tube manometer.	6M	CO4	L1
(b)	Two large plane surfaces are 2.4cm apart. The space between the surfaces is filled with glycerin. Estimate force required to drag a very thin plate of surface area 0.5 square meters between the two large plane surfaces at a speed of 0.6m/s, if the thin plate is at a distance of 0.8cm from one of the plane surfaces. Dynamic viscosity of glycerin μ=0.810N-s/m^2.	6M	CO1	L3
9.	The following data pertain to a kaplan turbine: Power available at shaft = 22500kW, Head = 20m, Speed = 150rpm, Hydraulic efficiency = 95%, Overall efficiency = 88%, Outer diameter of runner = 4.5m, Diameter of the hub = 2m. Assume that the turbine discharges without whirl at exit, determine the runner vane angles at the hub and at the outer periphery.	12M	CO5	L5
10(a)	Elaborate the advantages and disadvantages of Francis turbine over a Pelton wheel turbine.	6M	CO5	L6
(b)	Outline the schematic diagram of a Francis turbine and explain briefly its construction and working.	6M	CO5	

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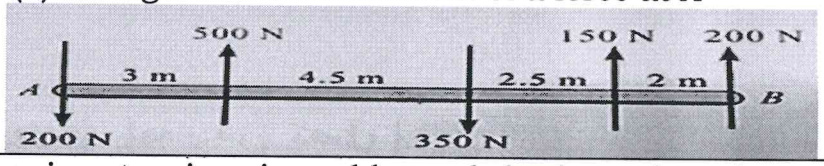
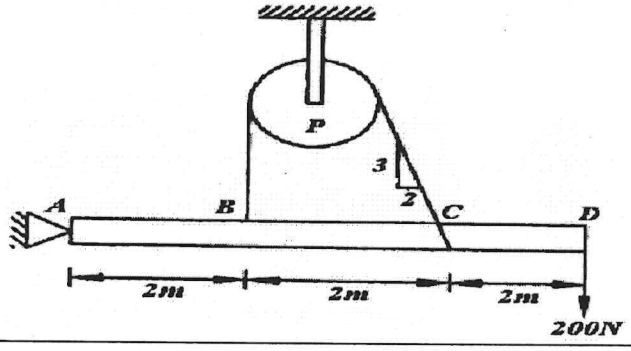
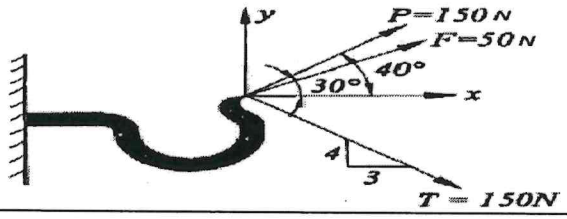
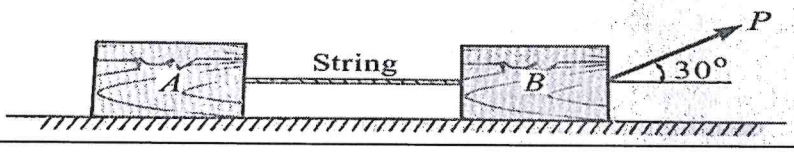
B.Tech. (II Semester) Supplementary Examinations

17ME02-ENGINEERING MECHANICS
(ASE & ME)

Time: 3 hours | Max. Marks : 60

Answer one question from each unit
All questions carry equal marks

Q.No	Questions	Marks	CO	BL
1(a)	Reduce the following force system into (i) single force system and (ii) A single force and moment of a force at A 	6M	CO1	L2
(b)	Determine tension in cable and horizontal and vertical component of reactions at pin A. The pulley P is frictionless as shown in figure. 	6M	CO1	L3
	(OR)			
2(a)	State and Prove Varignon's Theorem.	6M	CO1	L2
(b)	The hook shown in figure is connected to three cables. What is the resultant force on the hook? 	6M	CO1	L3
3(a)	In figure the two blocks (W_1 = 30 N and W_2 = 50 N) are placed on rough horizontal plane. Coefficient of friction between the block A and plane is 0.3 and that between B and plane is 0.2. Find the minimum value of the force P to just move the system. Also find the tension in the string. 	8M	CO2	L3

(b)	The force required to pull a body of weight 50N on a rough horizontal plane is 15N. Determine the μ if the force is applied at an angle of 15^0 with the horizontal.	4M	CO2	L3
	(OR)			
4(a)	What is meant by friction and list the factors influencing on friction.	4M	CO2	L2
(b)	A body is weighing 300N rests on a rough horizontal plane is subjected to a horizontal force P. Determine the frictional force developed in the surface if coefficient of friction is 0.25 and if P is applied at an angle of 30^0 with horizontal.	8M	CO2	L3
5(a)	Write the difference between centroid and center of gravity.	6M	CO3	L2
(b)	Determine mass moment of inertia for solid sphere has density 80kg/m^3 and radius 256 mm about centroidal axes.	6M	CO3	L3
	(OR)			
6(a)	Derive the centre of gravity co-ordinates of hemisphere from first principles.	6M	CO3	L2
(b)	Calculate the moment of inertia of a steel sphere 350mm diameter with respect to a centroidal axis. The density of steel is 7830kg/m^3.	6M	CO3	L3
7(a)	A truck travels 164 m in 8 sec while being decelerated at a constant rate of 0.5 m/s^2. Determine (i) its initial velocity (ii) its final velocity and (iii) the distance travelled during the first 0.6 sec.	6M	CO4	L3
(b)	Determine the minimum initial velocity with which a projectile may be fired so that it clears a wall 4 m height and falls on the side of the wall at a distance of 4 m. The wall at a distance of 6 m from the point of projection.	6M	CO4	L3
	(OR)			
8(a)	Draw the motion curves of displacement - time, velocity - time, acceleration - time. Briefly explain.	6M	CO4	L2
(b)	A man, starting from rest, accelerates his speed at 2 m/s^2 in a running track for 100m run. Find (i) the velocity at 100 m distance (ii) time taken to reach 100m.	6M	CO4	L2
9(a)	Derive the kinetic energy of a body in fixed axis rotation.	6M	CO5	L2
(b)	A mine cage weighs 12 kN and can carry a maximum load of 20 kN. The average frictional resistance of the side guides is 500 N. What constant cable tension is required to give a loaded cage an upward velocity of 3 m/sec from rest in a distance of 3 m.	6M	CO5	L3
	(OR)			
10(a)	Explain the principle of work energy for a rigid body.	6M	CO5	L2
(b)	A flywheel which is at rest attains a constant speed of 300rpm after accelerating uniformly for 10 seconds. Determine the number of revolutions made by the fly wheel during the speed.	6M	CO5	L3

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L.B. Reddy Nagar :: Mylavaram – 521 230 :: NTR Dist.:: A.P.

B.Tech. (II Semester) Supplementary Examinations

17EC04-DIGITAL ELECTRONIC CIRCUITS

(ECE)

Time : 3 hours | Max. Marks : 60

Answer one question from each unit.
All questions carry equal marks

Q.No	Questions	Marks	CO	BL
1(a)	Identify the hamming code data 101101101 for the presence of any errors with odd parity and correct the error.	6M	CO1	L2
(b)	Convert 3 bit binary representation in to Gray code representation.	6M	CO1	L2
	(OR)			
2(a)	Solve the following operations: (i) $(231)_{10} - (159)_{10}$ using 9's complement method. (ii) $(111001)_2 - (100111)_2$ using 2's complement method.	6M	CO1	L2
(b)	Minimize the Boolean expression into three literals. $F = \overline{(\overline{XY} + Z)} + Z + XY + WZ$	6M	CO2	L3
3(a)	Realize the EX-NOR expression using NOR gates.	6M	CO2	L2
(b)	Minimize the function F(A,B,C)=πM(0,2,3,6,8,12,14) and implement the logic circuit.	6M	CO2	L3
	(OR)			
4(a)	Minimize the function F(A,B,C) = $\sum$m(1,3,4,5,6,7) using Kmap and implement the minimized function with basic gates.	6M	CO2	L3
(b)	Realize AND, NOT, OR, NOR logic gates using NAND gate.	6M	CO2	L2
5(a)	Design a binary to Grey code Convertor by using PLA.	6M	CO4	L3
(b)	Implement a BCD to Excess 3 code convertor by using PAL.	6M	CO4	L3
	(OR)			
6(a)	Design a carry look ahead adder.	6M	CO4	L3
(b)	Implement a Full adder by using 4X1 MUX.	6M	CO4	L3
7(a)	Explain the operation of Parallel IN and serial OUT shift register.	6M	CO4	L3
(b)	Design MOD12 asynchronous counter.	6M	CO4	L3
	(OR)			
8(a)	Explain the operation of D flip flop.	6M	CO4	L3
(b)	Realization of JK flipflop using D flip flop.	6M	CO4	L3
9(a)	What are the symbols in ASM chart? Explain each symbol.	6M	CO4	L1
(b)	Design an ASM chart to for the sequence detector 101.	6M	CO4	L3
	(OR)			
10(a)	Draw the diagram of mealy type state machine for serial adder and explain is operation.	6M	CO4	L3
(b)	What are the capabilities and limitations of finite state machines? explain.	6M	CO4	L1

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H.T.No. | | | | | | | | | | |

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LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (AUTONOMOUS)

L.B. Reddy Nagar :: Mylavaram – 521 230 :: NTR Dist.:: A.P.

B.Tech. (II Semester) Supplementary Examinations

17EE01-ELECTRONIC CIRCUITS AND DEVICES

(EEE)

Time : 3 hours | Max. Marks : 60

Answer one question from each unit

All questions carry equal marks

Q.No	Questions	Marks	CO	BL
1(a)	Explicate the V-I characteristics of a Zener diode, define avalanche breakdown and Zener breakdown.	6M	CO1	L2
(b)	Determine the thermal voltage for a diode at a temperature of 20°C. For the same diode, find the diode current if I_s=40 nA, n= 2 and the applied bias voltage is 0.5 V.	6M	CO1	L4
	(OR)			
2(a)	Define Fermi level in a semiconductor. Explain the position of Fermi level in Intrinsic and Extrinsic semiconductors.	6M	CO1	L2
(b)	The reverse saturation current of a germanium diode is 100 μA. at room temperature of 27°C. Calculate the current in forward biased condition, if forward bias voltage is 0.2V at room temperature.	6M	CO1	L3
3(a)	For a Full Wave Recitifier , Obtain expression for (i) Ripple Factor (ii) Peak Inverse Voltage (iii) Efficiency for Rectification.	6M	CO2	L4
(b)	A full wave rectifier delivers 50W to a load of 200Ω. If the ripple factor is 1%, calculate the ac ripple voltage across the load.	6M	CO2	L3
	(OR)			
4(a)	Draw a circuit diagram of a full wave rectifier with shunt capacitor filter and obtain the expression for ripple factor for full wave rectifier using shunt capacitor filter.	6M	CO2	L4
(b)	Calculate the value of 'C' that has to be used for the capacitor filter of a full wave rectifier to get a ripple factor of 0.01%. The rectifier supplies a load of 2kΩ while the supply frequency is 50Hz.	6M	CO2	L3
5(a)	Illustrate the drain and transfer characteristics of N channel MOSFET.	6M	CO2	L2
(b)	In a JFET , I_{DSS}=10 mA and $V_{GS(OFF)}$=-4 V . Determine the drain current for V_{GS}=0 V, -1 V and -4 V.	6M	CO2	L3
	(OR)			
6(a)	Define α and β of a transistor. Show how they are related to each other in terms of collector current.	6M	CO2	L2
(b)	Analyze the output characteristics of a common emitter transistor configuration.	6M	CO2	L2
7(a)	Analyze the diode compensation for instability in transistor against variation of V_{BE} .	6M	CO3	L2
(b)	Discuss the factors effecting Q-point.	6M	CO3	L2
	(OR)			
8(a)	Briefly analyze the need of stabilization for a transistor.	6M	CO3	L2
(b)	For the fixed bias method a silicon transistor with β=100 is used. V_{CC}=6V, R_B=530KΩ, R_C=3KΩ. Draw the dc load line and determine the operating point. What is the stability factor?	6M	CO3	L3
9(a)	Give the constructional features of Schottky diode with applications.	6M	CO5	L2
(b)	What is SCR? Explain the volt-ampere characteristics. Define holding current and latching current.	6M	CO5	L4
	(OR)			
10.	Derive and express voltage gain, current gain, input impedance and output impedance of single stage common-emitter transistor amplifier in terms of h-parameters. Give important features of h-parameter model compared to other model.	12M	CO5	L4

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