

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS) B. Tech Mid Term Examinations April - 2024			Dept.:	H & S	
			Academic Year		
			2023 – 2024		
Course Code	:	2025401	Course Name: Business Economics and Accounting for Engineers		
Mid Term	:	I	Marks: 30	Regulation: R20UG	Duration: 90 Min
Semester:	IV		Branch: CE,ME,ECE, AI&ML	Date: 01-04-2024	

Answer **Three Questions** choosing One Question from each Part
All Questions carries equal marks

Q. No.	Questions	Marks	COs	BL
1	Define Business Economics and explain its Nature and Scope	10	CO401.1	L-1
OR				
2	Explain the followings. a) Law demand and its exceptions b) Demand forecasting techniques	5 5	CO401.1	L-2
3	What is elasticity of demand and explain the types of price elasticity of demand	10	CO401.1	L-1
OR				
4	Explain the followings a) ISO Cost b) ISO Quants	5 5	CO401.2	L-2
5	What is production function and explain production function with one variable factors with charts.	10	CO401.2	L-1
OR				
6	Explain the following a) Internal economics of scale b) BEP and its significance with diagram.	5 5	CO401.2	L-2

1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating

K.S.R.M. College of Engineering, Kadapa (Autonomous) B. Tech Mid Term Examinations April-2024						Dept.:	CE		
						Academic Year		2023 - 24	
						Subject Code : 2001402		Subject: Hydraulics and Hydraulic Machinery	
Mid Term : I		Marks: 30M	Regulation: R20UG	Date: 02-4-2024					
Semester : IV		Section: A and B							

Q. No	Question (s)	Marks	BL	CO
1.	Derive Von-Karman momentum integral equation for boundary layer flows with a neat sketch.	10M	L2	CO1
(OR)				
2.	Determine the displacement thickness, momentum thickness and energy thickness for the velocity distribution in the boundary layer is given by $u/U=2(y/\delta)-(y/\delta)^2$.	10M	L3	CO1
3.	Describe the flows in open channels? Explain clearly.	10M	L1	CO2
(OR)				
4.	Calculate the discharge through a trapezoidal channel of width 8 m and side slope of 1 horizontal to 3 vertical. The depth of flow of water is 2.4 m and value of chezy's constant $C=50$. The slope of the bed is $1/4000$.	10M	L5	CO2
5.	Derive an expression for the force exerted by a jet of water on a fixed vertical plate in the direction of jet with a neat sketch.	10M	L3	CO3
(OR)				
6.	A jet of water of diameter 50 mm strikes fixed plate in such a way that the angle between the plate and the jet is 30° . The force exerted in the direction of jet is 1471.50 N. Determine the rate of flow of water.	10M	L3	CO3

L1-Remembering; L2-Understanding; L3-Applying; L4-Analyzing; L5-Evaluating; L6-Creating.

K.S.R.M. College of Engineering, Kadapa (Autonomous) B. Tech Mid-Term Examinations April-2024						Dept.:	CE
						Academic Year	
						2023-24	
Subject Code	: 2001403	Subject:	Soil Mechanics				
Mid Term	: I	Marks:	30 M	Regulation:	R20UG	Duration: 90 Min	
Semester	: IV	Section:	A and B			Date: 03-04-2024	

Q. No	Question (s)	Marks	BL	CO																						
1.	Discuss the characteristics and construction of the clay mineral responsible for the swelling and shrinkage characteristics of the soil.	10M	L1, L2	CO1																						
(OR)																										
2.	Determine the curvature and uniformity coefficient from the particle size distribution curve drawn for the following data and classify the soil. <table border="1" style="margin-left: 20px;"> <tr> <td>IS Sieve size (mm)</td> <td>4.75</td> <td>2.36</td> <td>1.18</td> <td>0.6</td> <td>0.3</td> <td>0.15</td> <td>0.075</td> <td>0.054</td> <td>0.025</td> <td>0.015</td> </tr> <tr> <td>Mass of soil retained (gm)</td> <td>2.82</td> <td>0.3</td> <td>1</td> <td>3.05</td> <td>2.11</td> <td>19.79</td> <td>100</td> <td>157.93</td> <td>110</td> <td>103</td> </tr> </table>	IS Sieve size (mm)	4.75	2.36	1.18	0.6	0.3	0.15	0.075	0.054	0.025	0.015	Mass of soil retained (gm)	2.82	0.3	1	3.05	2.11	19.79	100	157.93	110	103	10M	L1, L2 & L3	CO1
IS Sieve size (mm)	4.75	2.36	1.18	0.6	0.3	0.15	0.075	0.054	0.025	0.015																
Mass of soil retained (gm)	2.82	0.3	1	3.05	2.11	19.79	100	157.93	110	103																
3.	Define void ratio, moisture content, degree of saturation, Bulk unit weight, moisture content, and relative density and explain the engineering significance of these properties.	10M	L1 & L2	CO1																						
(OR)																										
4.	a) What is permeability? Mention the methods of determining the permeability of soils. b) A horizontally stratified soil deposit consists of three layers, each uniform. The permeabilities of these layers are 16×10^{-4} cm/s, 20×10^{-4} cm/s, and 8×10^{-4} cm/s, and their thicknesses are 5, 5, and 10 m, respectively. Find the effective average permeability of the deposit in the horizontal and vertical directions.	5M 5M	L1 L1, L2 & L3	CO2																						
5.	Describe clearly with a neat sketch how you will determine the permeability coefficient of a fine-grained sample in the laboratory and derive the expression used to compute the permeability coefficient. Mention the various precautions you suggest to improve the reliability of the test results.	10M	L1, L2 & L3	CO2																						
(OR)																										
6.	a) Explain the Quick Sand condition. Also, determine the critical gradient of a sand deposit with a specific gravity of 2.65 and a void ratio of 0.55.	10M	L1, L2 & L3	CO2																						

L1-Remembering, L2-Understanding, L3-Aplying, L4-Analyzing, L5-Evaluation, L6-Creation

K.S.R.M COLLEGE OF ENGINEERING, KADAPA
(AUTONOMOUS)

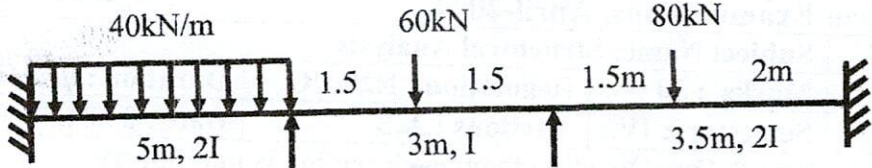
Dept.: **Civil Engineering**
Academic Year
2023 – 2024

B. Tech Mid Term Examinations, April-2024

Subject Code	: 2001404	Subject Name: Structural Analysis		
Mid Term	: I	Marks : 30	Regulation : R20 UG	Duration : 90 Minutes
Year	: II	Semester : IV	Sections : A,B	Date : 04.04.2024

Answer any Three Questions & One Question from each section is mandatory

Q. No	Question (s)	Marks	Skills	CO
1.	<p>Analyze the truss shown in the figure below. Take L/A as constant and internal angle as 45°</p>	10	L4	CO 1
OR				
2.	<p>Analyze the truss shown in the figure below. Take areas of vertical members 3000mm^2, horizontal members 4000mm^2 and diagonal members 5000mm^2.</p>	10	L4	CO 1
3.	<p>A fixed beam of span 8m is subjected to two unequal point loads of magnitude 120kN and 160kN at a distance of 3m and 5m from left support respectively. Find fixed end moments, reactions and draw SFD and BMD.</p>	10	L5	CO 2
OR				
4.	<p>Analyze the continuous beam using theorem of three moments and draw BMD</p>	10	L4	CO 2
5.	<p>Analyze the continuous beam using Slope deflection method and draw BMD</p>	10	L5	CO 3
OR				

6.	<p>Analyze the continuous beam using Slope Deflection method and draw BMD</p> 	10	L3	CO 3
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L1-Remembering; L2-Understanding; L3-Applying; L4- Analyzing; L6-Evaluating L6 Creating

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS) B. Tech Mid Term Examinations, April-2024				Dept.:	Civil Engineering	
				Academic Year		2023 – 2024
				Subject Code	: 2001405	Subject Name:
Mid Term	: I	Marks : 30	Regulation : R20 UG	Duration : 90 Min		
Year	: II	Semester : IV	Sections : A & B	Date : 06-04-2024		

Q.No	Answer any three questions and one question from each section is mandatory	M	BL	CO
1	What are the Significant recommendations of Jayakar Committee Report Mention how this helped in road development in INDIA	10	L1	1
OR				
2	Write briefly about the classification of Roads based on Location and Function	10	L1	1
3	Write about the Various Factors affecting the road alignment	10	L1	1
OR				
4	What are the objectives of Highway Geometric design List the Various geometric elements to be considered in Highway design	10	L2	2
5(a)	Explain PIEV Theory	4	L2	2
(b)	How is the expression for finding the stopping sight distance at level and at gradients arrived at	6	L2	2
OR				
6	Calculate the stopping sight distance for a design speed of 65kmph . Take the total reaction time of driver at 2.5 seconds and the coefficient of Longitudinal friction is 0.35	10	L3	2

M: Marks; BL: Bloom's Taxonomy Level; CO: Course Outcome

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS) Mid Term Examinations April-2024				Dept.:	H&S
				Academic Year	
				2023-2024	
Subject Code	: 2024410	Subject : Universal Human Values			
Mid Term	: I	Marks : 30	Regulation : R-20	Duration : 90 Min	
Year	: II	Semester : IV	Branch: CE/ME & CSE	Date :08/04/2024 Mon A.N	

Answer the following questions. Each question carries equal marks.

Q. No.	QUESTIONS	Marks	CO	Blooms Level
1	Interpret the aspect of Spirituality and Character at work place and Corporate Excellence.	10	CO1	L2
	OR			
2	(a) Define Human values and explain any three in detail. (b) "Empathy is social radar"- Explain.	5 5	CO1 CO1	L1 L5
3	(a) Illustrate variety of Moral Issues. (b) List out the steps in confronting moral dilemma.	5 5	CO2 CO2	L2 L4
	OR			
4	(a)What are the conventional steps according to the theory of Kohlberg on moral autonomy? (b) Mention the types of Inquiries	5 5	CO2 CO2	L1 L2
5	(a)Recall the Engineering Ethics and relate them to Engineering. (b) Explain Civic Virtues and Living Peacefully.	5 5	CO2 CO1	L1 L2
	OR			
6	(a)Discuss in detail the ethical aspect of caring and sharing with an example. (b) What is meant by profession? Explain its features in brief	5 5	CO1 CO2	L5 L1

- L1 - Remembering
- L2 - Understanding
- L3 - Applying
- L4 - Analyzing
- L5 - Evaluating
- L6 - Creating

K.S.R.M. College of Engineering, Kadapa (Autonomous) B. Tech Mid Term Examinations APRIL – 2024						Dept.:	EEE		
						Academic Year		2023 – 2024	
						Course Code		: 2021401	Course:
Mid Term	:	I	Marks:	30M	Regulation:	R20UG	Duration: 90 Min		
Semester	:	IV	Section:				Date: 1 st April 2024		

Q. No	Question (s)	Marks	BL	CO
1.	Show that $J_4(x) = \left(\frac{48}{x^3} - \frac{8}{x}\right) J_1(x) + \left(1 - \frac{24}{x^2}\right) J_0(x)$.	10M	L2	CO1
(OR)				
2.	Prove that $\int_{-1}^1 x^2 p_{n-1}(x) p_{n+1}(x) dx = \frac{2n(n+1)}{(2n-1)(2n+1)(2n+3)}$	10M	L3	CO1
3.	Show that the function $f(z)$ defined by $f(z) = \begin{cases} \frac{x^3(1+i) - y^3(1-i)}{x^2 + y^2}, & z \neq 0 \\ 0 & z = 0 \end{cases}$ Is continuous and Cauchy - Riemann equations are satisfied at the origin, yet $f'(0)$ does not exist.	10M	L2	CO2
(OR)				
4.	Show that the function $u = \frac{1}{2} \log(x^2 + y^2)$ is harmonic and determine its conjugate and also find the analytic function $f(z)$.	10M	L2	CO2
5.	Determine analytic function $f(z)$, whose real part is $\frac{\sin 2x}{(\cosh 2y - \cos 2x)}$.	10M	L5	CO2
(OR)				
6.	Find the bilinear transformation which maps the points $z = -1, 0, 1$ onto the points $w = -1, -i, 1$ respectively. Hence find the invariant points of this transformation.	10M	L5	CO3

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS) B. Tech Mid Term Examinations April 2024			Dept.:	H&S	
			Academic Year		
			2023 – 2024		
Subject Code	:	2025402	Subject Name: Fundamentals of Management for Engineers		
Mid Term	:	I	Marks: 30	Regulation: R20UG	Duration: 90 Min
Semester:	IV		Branch: EEE	Date: 02-04-2024	

Answer **Three Questions** choosing One Question from each Part
All Questions carry equal marks

Q. No.	Questions	Marks	BL	COs
1	Define Management? Explain the Nature and Scope of Management?	10	L2	CO1
OR				
2	Explain the following:	05	L2	CO1
	a) Levels of Management b) Managerial Skills	05	L2	CO1
3	Briefly explain the Functions of Management?	10	L2	CO1
OR				
4	Elaborate Planning Process & Types of Plans?	10	L2	CO2
5	Explain about the Steps involved in Decision Making Process?	10	L2	CO2
OR				
6	Define Organizational Design & Organizational Structure?	10	L2	CO3

BL – Bloom’s Taxonomy Levels

1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS)				Dept.:	EEE	
B.Tech Mid Term Examinations April 2024				Academic Year		
				2023- 2024		
Subject Code	: 2002403	Subject: Induction Motors & Synchronous Machines				
Mid Term	: I	Marks: 30	Regulation: R20 UG	Duration: 90 Min		
Year	: II	Semester: IV	Section: A	Date: 03/04/2024		
Q. No	Question (s)			Marks	Skills	CO
1	Describe in detail about the principle of operation of 3-phase Induction Motor.			10	L2	CO1
OR						
2.A	Explain in detail about Torque-Slip characteristics.			5	L3	CO2
2.B	A 3-phase, 50Hz induction motor has full-load speed of 1440 rpm. For this motor, calculate (a) number of poles (b) full load slip and (c) rotor frequency.			5	L4	CO1
3	Explain the procedure to draw the Circle diagram of an Induction Motor from No-load and Blocked Rotor tests.			10	L3	CO4
OR						
4	What are the different methods of starting of squirrel cage Induction Motor? Discuss Star-Delta starting method in detail.			10	L3	CO2
5	Explain the principle of operation of single-phase Induction Motor with the help of Double Field Revolving Theory.			10	L2	CO1
OR						
6	Describe the operation of a shaded pole induction motors with suitable diagrams.			10	L3	CO2

K.S.R.M. College of Engineering, Kadapa
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B. Tech Mid Term Examinations April – 2023

Dept.: **EEE**

Academic Year

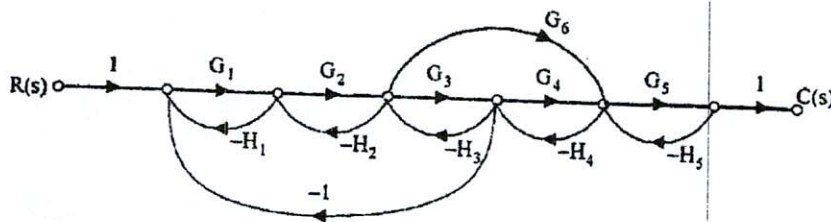
2023 – 2024

Subject Code	: 2002404	Subject:	LINEAR CONTROL SYSTEMS		
Mid Term	: I	Marks:	30M	Regulation:	R20UG
Semester	: IV	Section:		Duration:	90 Min
					Date: 4 th April 2024

Q. No	Question (s)	Marks	BL	CO
1.a)	What is Transfer Function.	3M	L1	CO3
b)	Write the Difference between open loop and closed loop system	7M	L1	CO3

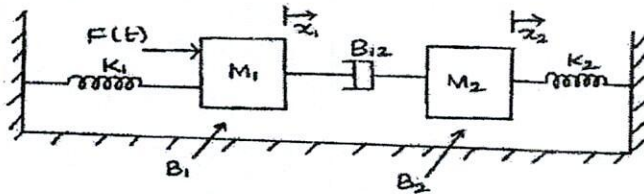
(OR)

2. Obtain the overall transfer functions for the following signal flow graphs using mason's gain formula.



10M L4 CO3

3. Write the differential equations for the mechanical system shown in figure and obtain analogous electric circuit based on force-current and force-voltage analogy.



10M L5 CO3

(OR)

4. Derive the expression for time response of second order under damped system with unit step as input.

10M L4 CO1

5. For a unity feedback control system the open loop transfer function $G(S) = \frac{100}{s(s+10)}$. Solve (a) Positional, velocity & acceleration error constants (b) steady state error when the input is $r(t) = P_0 + P_1 t + \frac{P_2 t^2}{2}$.

10M L4 CO3

(OR)

6. Calculate the time-domain specifications such as
i) Rise time ii) Peak time iii) Settling time

10M L5 CO1

for a second order system having a closed-loop transfer function of $\frac{100}{s^2 + 10s + 100}$

K.S.R.M. College of Engineering, Kadapa (Autonomous)						Dept.:	EEE
B. Tech Mid Term Examinations <i>April - 2024</i>						Academic Year	
						2023 - 2024	
Subject Code	:	2002405	Subject:	Power Systems-I			
Mid Term	:	I	Marks:	30M	Regulation:	R20UG	Duration: 90 Min
Semester	:	IV	Section:	-			Date: 06/04/2024

Q. No	Question (s)	Marks	BL	CO														
1.	a) Write the importance and the differences between Conventional and Non Conventional sources of energy?	4M	L1	CO1														
	b) Draw the line diagram and explain the working principle of hydro electric power station.	6M	L1,L2	CO1														
(OR)																		
2.	What is a nuclear Reactor? Explain the PWR and BWR nuclear reactors with a neat sketch.	10M	L2	CO1														
3.	a) Draw the layout of thermal power station.	4M	L2	CO1														
	b) Explain the following parts of thermal power plant. (i) Boiler (ii) Super heater and (iii) Cooling Towers	6M	L2	CO1														
(OR)																		
4.	a) A generating station has the following daily load cycle : <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Time (hours)</td> <td>0—6</td> <td>6—10</td> <td>10—12</td> <td>12—16</td> <td>16—20</td> <td>20—24</td> </tr> <tr> <td>Load (MW)</td> <td>20</td> <td>25</td> <td>30</td> <td>25</td> <td>35</td> <td>20</td> </tr> </table> Draw the load curve and find (i) maximum demand, (ii) units generated per day, (iii) average load and (ii) iv) load factor.	Time (hours)	0—6	6—10	10—12	12—16	16—20	20—24	Load (MW)	20	25	30	25	35	20	5M	L1,L2	CO1
	Time (hours)	0—6	6—10	10—12	12—16	16—20	20—24											
Load (MW)	20	25	30	25	35	20												
b) Explain the various tariff Charges on Consumers	5M	L2	CO5															
5.	What is Depreciation? Explain various types of depreciation methods.	10M	L2	CO5														
(OR)																		
6.	Explain types of insulators with a neat sketch.	10M	L2	CO3														

K.S.R.M COLLEGE OF ENGINEERING, KADAPA				Dept.:	ME
(AUTONOMOUS)				Academic Year	
B.Tech., I-Mid Term Examinations - April, 2024				2023- 2024	
Subject Code	2021401	Subject: PROBABILITY, STATISTICS & NUMERICAL METHODS			
Mid Term	I	Marks : 30	Regulation : R20 UG	Duration : 90 Min	
Year	II	Semester : IV	Section : A & B	Date : 02-04-2024 (AN)	

Answer ALL the questions. All Questions carry Equal Marks.

03 X 10 = 30 Marks

Q. No	Question (s)	Marks	Skills	CO
1	The probability that a pen manufactured by a company will be defective is $\frac{1}{10}$. If 12 such pens are manufactured, determine the probability that (a) exactly two will be defective, (b) at least two will be defective and (c) none will be defective.	10	L5	CO1
OR				
2	If the probability that an individual suffers a bad reaction from a certain injection is 0.001, determine the probability that out of 2000 individuals (i) exactly 3 (ii) more than 2 individuals (iii) none (iv) more than one individual suffer a bad reaction.	10	L5	CO1
3	In a test on 2000 electric bulbs, it was found that the life of a particular make was normally distributed with an average life of 2040 hours and S.D of 60 hours. Estimate the number of bulbs likely to burn for (a) more than 2150 hours, (b) less than 1950 hours and (c) more than 1920 hours and but less than 2160 hours.	10	L5	CO1
OR				
4	Evaluate the mean and standard deviation of a normal distribution in which 7% of items are under 35 and 89% are under 63.	10	L5	CO 1
5	Explain (i) Null Hypothesis (ii) Critical region and (iii) Level of significance.	10	L5	CO2
OR				
6	The mean height of students in a college is 155 cms and standard deviation is 15. What is the probability that the mean height of 36 students is less than 157 cms.	10	L2	CO2

Subject Code	: 2003403	Subject: APPLIED THERMODYNAMICS
Mid Term	: I	Marks : 30 Regulation : R20UG Duration : 90 Min
Year	: II	Semester : IV Section : A & B Date : 03-04-2024

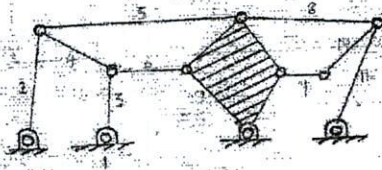
NOTE: Answer All Questions

Q. No.	Question	Marks	BL	CO
1.	(a) Derive the expression for the efficiency of a Diesel cycle.	6M	L3	CO1
	(b) An engine of 250 mm bore and 375 mm stroke works on Otto cycle. The clearance volume is 0.00263 m^3 . Determine the air standard efficiency of the engine.	4M	L5	CO1
	(OR)			
2.	(a) Compare Otto and Diesel cycles for same compression ratio and heat input	5M	L4	CO1
	(b) A compression ignition engine has a stroke of 270 mm and a cylinder diameter of 165 mm. The clearance volume is 0.000434 m^3 and the fuel ignition takes place at constant pressure for 5% of the stroke. Estimate the efficiency of the engine assuming it to work on the diesel cycle.	5M	L5	CO1
3.	(a) Classify IC engines.	5M	L4	CO1
	(b) Explain with suitable sketches the working of a four stroke SI engine.	5M	L2	CO1
	(OR)			
4.	(a) In what aspects four stroke petrol engine differs from two stroke petrol engine.	5M	L4	CO3
	(b) Define the terms Brake Power, Mean Effective Pressure and Specific Fuel Consumption.	5M	L1	CO3
5.	Following observations were recorded during test on a single cylinder oil engine: Bore = 300 mm; stroke = 450 mm; speed = 300 rpm; IMEP = 6 bar; net brake load = 1.5 KN; brake drum diameter = 1.8 meters; brake rope diameter = 2 cm.; specific fuel consumption = 0.25 kg/kw – hr; Calorific value of fuel used = 43900 kJ/kg Estimate (i) IP (ii) BP (iii) Brake Thermal Efficiency (iv) Indicated Thermal Efficiency (v) Mechanical Efficiency	10M	L5	CO3
	(OR)			
6.	Explain about the emissions that come out of engine exhaust.	10M	L2	CO3

- L1-Remembering
- L2-Understanding
- L3-Applying
- L4- Analyzing
- L5-Evaluating
- L6-Creating

Subject Code	: 2003403	Subject:	KINEMATICS OF MACHINES		
Mid Term	: I	Marks:	30M	Regulation:	R20UG
Semester	: IV	Section:	A and B		Date: 04 th April 2024

Q.No	Question (s)	Marks	BL	CO
1.(a)	Explain different types of constrained motions with examples.	5M	L1	CO1
(b)	Determine the mobility (degrees of freedom) of the mechanism shown in Fig. using Kutzbach mobility criterion.	5M	L4	CO1

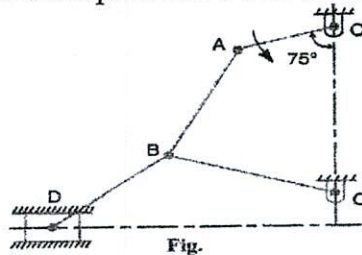


(OR)

2.	Define Kinematic pair and discuss various types of kinematic pairs with example.	10M	L1	CO1
3.	What is inversion of mechanism? Describe various inversions of double slider crank mechanism with sketches.	10M	L1	CO1

(OR)

4.	Explain with neat sketch the working of crank and slotted lever quick return motion mechanism. Deduce the expression for length of stroke in terms of link lengths.	10M	L1	CO1
5.	In Fig., the angular velocity of the crank OA is 600 r.p.m. Determine the linear velocity of the slider D and the angular velocity of the link BD, when the crank is inclined at an angle of 75° to the vertical. The dimensions of various links are : OA = 28 mm ; AB = 44 mm ; BC 49 mm ; and BD= 46 mm. The centre distance between the centres of rotation O and C is 65mm. The path of travel of the slider is 11 mm below the fixed point C. The slider moves along a horizontal path and OC is vertical.	10M	L4	CO2



(OR)

6.	In a four bar chain ABCD, AD is fixed and is 160 mm long. The crank AB is 40mm long and rotates at 120 r.p.m. clockwise, while the link CD = 80 mm oscillates about D. BC and AD are of equal length. Find the angular velocity of link CD when angle BAD = 45°.	10M	L4	CO2
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K.S.R.M. COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS)				Dept.:	MECHANICAL
				Academic Year	
B. Tech I Mid Term Examinations of April - 2024					
Subject Code	:	2003405	Subject Name: MACHINE TOOLS		
Mid Term	:	I	Marks: 30	Regulation: R20UG	Duration: 90 Min
Semester:	IV		Section: A&B	Date: 06-04-2024	

Q. No	Question (s)	Marks	BL	CO
1	Explain about cutting tool materials that are used in metal cutting?	10	L2	CO1
OR				
2	Interpret the nomenclature of a single point cutting tool as per ASA system?	10	L2	CO1
3	Identify the work holding devices that are used in a lathe and explain any five work holding devices with a neat sketch?	10	L3	CO1
OR				
4	Summarize how taper turning is produced by tailstock set-over method with a neat sketch?	10	L2	CO1
5	Illustrate the principal parts of a standard planer with a neat line diagram?	10	L2	CO2
OR				
6	Analyze the working principle of ECM process with a neat sketch?	10	L4	CO2

**BL – Bloom’s Taxonomy Levels (1- Remembering, 2- Understanding, 3 - Applying,
4- Analyzing, 5 – Evaluating, 6 - Creating)**

K.S.R.M COLLEGE OF ENGINEERING, KADAPA
(AUTONOMOUS)

Dept.: ECE
Academic Year
2023 – 2024

B. Tech Mid Term Examinations April 2024

Subject Code	: 2021403	Subject Name: PROBABILITY THEORY AND STOCHASTIC PROCESSES
Mid Term	: I	Marks: 30 Regulation: R20UG Duration: 90 Min
Semester: IV		Section: A,B&C Date:-02-04-2024

Answer any **Three Questions** choosing One Question from each Unit.

All Questions carries equal marks

Q. No	Question (s)	Marks	BL	CO														
UNIT-I																		
1	a) A supplier receives 900 shirts from a textile company. The probability that a shirt is defective is 10^{-2} . Find the probability that there will be more than 4 shirts is defective.	5	L3	CO2 12.1														
	b) Define (i) mutually exclusive events (ii) equally likely events (iii) exhaustive events (iv) Conditional probability (v) independent events	5	L2	CO2 12.1														
OR																		
2	a) Define Conditional probability distribution function and list out the properties of it.	5	L1	CO2 12.1														
	b) A R.V X has the probabilities shown below. Find the value of K, plot graphs for pdf and PDF.	5	L3	CO2 12.1														
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>X</td> <td>-3</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> </tr> <tr> <td>P(x)</td> <td>0.2K</td> <td>0.4K</td> <td>K</td> <td>0.2</td> <td>0.6K</td> <td>K</td> </tr> </table>	X	-3	-2	-1	0	1	2	P(x)	0.2K	0.4K	K	0.2	0.6K	K			
X	-3	-2	-1	0	1	2												
P(x)	0.2K	0.4K	K	0.2	0.6K	K												
UNIT-II																		
3	a) Find a constant $b > 0$ so that the function $f_X(x) = \begin{cases} e^{3x/4}, & 0 \leq x \leq b \\ 0, & \text{elsewhere} \end{cases}$ is a valid probability density and Find $F_X(0.5)$.	5	L3	CO2 12.1														
	b) Find mean and variance of Uniform density function $f_X(x) = 1/b-a$, $a \leq x \leq b$	5	L2	CO2 12.1														
OR																		
4	a) A random variable X is uniformly distributed on the interval $(-\pi/2, \pi/2)$. X is transformed to the new random variable $Y = T(X) = \tan(X)$, where $a > 0$, find the probability density function of Y.	5	L4	CO2 12.2														
	b) State and prove the properties of expectation?	5	L2	CO2 12.2														
UNIT-III																		
5	a) State Moment Generating function (MGF) and find the n^{th} moment of a random variable X about the origin using MGF.	5	L2	CO2 12.2														
	b) State and prove Chebychev's inequality?	5	L2	CO2 12.2														
OR																		

6	a) Find the C.F of a R.V with pdf $f(x) = \frac{x}{2}; 0 \leq x \leq 2$. Calculate first two moments.	5	L3	CO2 12.2
	b) Let X be a R.V which can take on the values 1, 2 and 3 with respective probabilities 1/4, 1/5 and 1/2. Find mean, mean square value and variance.	5	L3	CO2 12.2

BL – Bloom’s Taxonomy Levels (1- Remember, 2- Understand, 3 – Apply, 4 – Analyze, 5 – Evaluate, 6 - Create)

K.S.R.M. College of Engineering, Kadapa (Autonomous) B. Tech Mid Term Examinations APRIL – 2024						Dept.:	ECE		
						Academic Year		2023– 2024	
						2023– 2024			
Subject Code	:	2004403	Subject:	Microprocessors and Microcontrollers					
Mid Term	:	I	Marks:	30M	Regulation:	R20UG	Duration: 90 Min		
Semester	:	IV	Section:	A, B and C			Date: 03-04-2024		

Q. No	Question (s)	Marks	BL	CO
1.	Explain the architecture of 8086 Microprocessors with a neat diagram.	10M	L2	CO1
(OR)				
2.	Explain the pin diagram of 8086 with respect to its operating modes.	10M	L2	CO1
3.	a) Explain the addressing modes of 8086 microprocessor.	5M	L2	CO2
	b) Explain the following Mnemonic instructions i) XCHG ii) XLAT iii) CMP iv) CALL v) PUSH	5M	L2	CO2
(OR)				
4.	a) Develop an ALP to multiply two 16-bit Hexadecimal numbers in 8086.	5M	L3	CO3
	b) Develop an ALP to find a maximum number in a given series of 8-bit numbers.	5M	L3	CO3
5.	a) Define the following Assembler Directives i) DQ ii) DB iii) PROC iv) ORG v) ENDS	5M	L2	CO3
	b) Build an interface between 8086 CPU and two chips of 16Kx8 SRAM, where the starting memory address is 00000H.	5M	L3	CO5
(OR)				
6.	a) Explain the address decoding techniques.	05M	L2	CO5
	b) Explain the Data transfer Schemes of Synchronous and Asynchronous	05M	L2	CO2

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS)				Dept.:	ECE
				Academic Year	
Mid Term Examinations April- 2024					
Subject Code	: 2004404	Subject: EM WAVES AND TRANSMISSION LINES			
Mid Term	: I	Marks: 30	Regulation: R20	Duration: 90 Min	
Year	: II	Semester: IV	Sections: A, B&C	Date: 04.4.2024 AN	

Note: Answer all questions choosing *one* from each unit

Q. No	Question (s)	Marks	BL	CO
1	a) State Coulomb's law in SI units and indicate the parameters used in the equations with the aid of a diagram.	5	L1	CO 1
	b) Point charges 1 mC and - 2 mC are located at (3, 2, -1) and (-1, -1, 4), respectively. Calculate the electric force on a 10-nC charge located at (0, 3, 1) and the electric field intensity at that point.	5	L3	
OR				
2	a) Derive the relation between E and V.	5	L3	CO 1
	b) Derive the expressions for continuity equation and relaxation time.	5	L3	
3	a) Planes $z=0$ and $z=4$ carry current $K=-10axA/m$ and $K=10axA/m$, respectively. Determine H at	5	L3	CO 1
	i) (1,1,1) ii) (0,-3,10)			
	b) Define magnetic field intensity and magnetic flux density.	5	L1	
OR				
4	Explain Biot-Savart's law and derive the expression for H at a point P due to infinite length filamentary current.	10	L3	CO 1
5	a) Explain Faraday's law in detail. Derive the expression of Maxwell's first equation for time varying fields using Faraday's law.	5	L2	CO 2
	b) State and prove Gauss's law for electrostatic fields.	5	L3	CO 1
OR				
6	a) Why the ampere's circuit law is not applicable for time varying fields and how can overcome this situation using displacement current?	5	L3	CO 2
	b) What is transformer emf? How can you explain transformer emf with mathematical equations?	5	L2	

(L1-Remembering
L5-Evaluating

L2-Understanding
L6-creating).

L3-Applying

L4- Analyzing

Adli

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS) Mid Term Examinations April-2024			Dept.	ECE	
			Academic Year		
			2023 – 2024		
Subject Code	:	2004405	Subject: Linear and Digital IC Applications		
Mid Term	:	I	Marks : 30	Regulation : R20UG	Duration : 90 Min
Year	:	II	Semester : IV	Sections : A,B&C	Date : 06.04.2024 AN

Note: Answer all questions choosing *one* from each unit

Q. No	Question (s)	Marks	CO	Blooms Level
1	a) Describe the AC analysis for Balanced input and balanced output differential amplifier.	05	CO1	L3
	b) Explain the block diagram and ideal characteristics of Op-amp.	05	CO1	L2
OR				
2	a) List the DC characteristics of op-amp and explain in brief.	05	CO1	L4
	b) Define what is inverting and Non-inverting amplifier and design for a gain of 10 and -10.	05	CO1	L6
3	a) Model an Integrator circuit using op-amp and derive the output voltage expression.	05	CO3	L3
	b) Construct a Differentiator circuit using op-amp and derive the output voltage expression.	05	CO3	L3
OR				
4	a) Explain the operation of Instrumentation amplifier using op-amp.	05	CO3	L2
	b) What is Schmitt Trigger, explain the operation by using op-amp and also explain what is hysteresis.	05	CO3	L2
5	a) Explain the operation of Astable Multivibrator using op-amp.	05	CO3	L2
	b) Explain the operation of Triangular wave generator using op-amp.	05	CO3	L2
OR				
6	Derive the expression for bandwidth of first order LPF and HPF using op-amp.	10	CO3	L4

eg

K.S.R.M. College of Engineering, Kadapa (Autonomous) B. Tech Mid Term Examinations April – 2024						Dept.:	CSE		
						Academic Year		2023 – 2024	
Subject Code	: 2005403	Subject:	PRINCIPLES OF OPERATING SYSTEMS						
Mid Term	: I	Marks:	30M	Regulation:	R20UG	Duration: 90 Min			
Semester	: IV	Section:	A,B,C	Date: 01 st Apr 2024					

Q. No	Question (s)	Marks	BL	CO																								
1.	Define Operating Systems. Explain various Operating System Services.	10M	L1	CO1																								
(OR)																												
2.	List and explain various System Calls	10M	L1	CO1																								
3.	What are semaphores? Explain Dining Philosophers problem.	10M	L4	CO2																								
(OR)																												
4.	Consider the following process with the arrival time and CPU Burst time given in milliseconds. The Scheduling algorithm used is preemptive Shortest Remaining time first <table border="1" style="margin: 10px auto;"> <thead> <tr> <th>Process ID</th> <th>Arrival Time</th> <th>Burst Time</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>0</td> <td>10</td> </tr> <tr> <td>P2</td> <td>3</td> <td>6</td> </tr> <tr> <td>P3</td> <td>7</td> <td>1</td> </tr> <tr> <td>P4</td> <td>8</td> <td>3</td> </tr> </tbody> </table> <p>a. Draw the Gantt chart b. Calculate average waiting time c. Calculate average Turnaround time.</p>	Process ID	Arrival Time	Burst Time	P1	0	10	P2	3	6	P3	7	1	P4	8	3	10M	L3	CO2									
Process ID	Arrival Time	Burst Time																										
P1	0	10																										
P2	3	6																										
P3	7	1																										
P4	8	3																										
5.	Consider the following process with the arrival time and CPU Burst time given in milliseconds and priority (Highest number represents the highest priority) shown below. <table border="1" style="margin: 10px auto;"> <thead> <tr> <th>Process ID</th> <th>Arrival Time</th> <th>Burst Time</th> <th>Priority</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>0</td> <td>11</td> <td>2</td> </tr> <tr> <td>P2</td> <td>5</td> <td>28</td> <td>0</td> </tr> <tr> <td>P3</td> <td>12</td> <td>2</td> <td>3</td> </tr> <tr> <td>P4</td> <td>2</td> <td>10</td> <td>1</td> </tr> <tr> <td>P5</td> <td>9</td> <td>16</td> <td>4</td> </tr> </tbody> </table> <p>a. Draw the Gantt chart b. Calculate average waiting time c. Calculate average Turnaround time.</p>	Process ID	Arrival Time	Burst Time	Priority	P1	0	11	2	P2	5	28	0	P3	12	2	3	P4	2	10	1	P5	9	16	4	10M	L3	CO2
Process ID	Arrival Time	Burst Time	Priority																									
P1	0	11	2																									
P2	5	28	0																									
P3	12	2	3																									
P4	2	10	1																									
P5	9	16	4																									
(OR)																												
6.	Define Process? Explain Process Control Block?	10M	L2	CO2																								

K.S.R.M. COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS)				Dept.:	CSE
				Academic Year	
B.Tech Mid Term Examinations April 2024					
Subject Code	: 2005402	Subject:	Computer Organization		
Mid Term	: I	Marks : 30	Regulation : R20 UG	Duration : 90 Min	
Year	: II	Semester : IV	Section : CSE A, B&C	Date : 02-04-2024	

Part

Q. No	Question (s)	Marks	CO	Blooms Level
1	Explain about functional units of a computer.	10	CO1	L2
OR				
2	Discuss about the following A. Bus structure B. Basic performance equation.	10	CO1	L6
3	Explain in detail about Fixed Point Representation.	10	CO1	L2
OR				
4	Discuss about 4-bit Arithmetic Circuit with its neat diagram.	10	CO2	L6
5	Explain about Logical microoperations with its neat diagram.	10	CO2	L2
OR				
6	Design arithmetic logic shift unit and discuss in detail.	10	CO2	L6

K.S.R.M. College of Engineering, Kadapa (Autonomous) B. Tech Mid Term Examinations APRIL – 2024						Dept.:	CSE		
						Academic Year		20223– 2024	
						Subject Code : 2004403		Subject: Microprocessors and Microcontrollers	
Mid Term	: I	Marks: 30M	Regulation: R20UG	Date: 03-04-2024					
Semester	: IV	Section: A, B and C							

Q. No	Question (s)	Marks	BL	CO
1.	Explain the Internal Architecture of 8086 Microprocessors. Explain each block.	10M	L2	CO1
(OR)				
2.	Explain the Maximum mode (Read and Write mode) timing diagram of the 8086 Microprocessor.	10M	L2	CO2
3.	What is an instruction set? Explain any 5 instructions sets in an 8086 Microprocessor with suitable Example?	10M	L2	CO2
(OR)				
4.	a). Write an ALP for division of 32/16 bit numbers.	05M	L3	CO3
	b), write an ALP to check the given number is logical palindrome or not.	05M		
5.	Explain the working of DMA along with modes	10M	L4	CO3
(OR)				
6.	a) Examine the given Directives. I) ASSUME II) DT III) PROC IV) SEG V) ENDS	05M	L2	CO2
	b) Explain the Data transfer Schemes of Synchronous and Asynchronous.	05M		

K.S.R.M COLLEGE OF ENGINEERING, KADAPA
(AUTONOMOUS)

Dept CSE

Academic Year

B. Tech Mid Term Examinations April 2024

2023 – 2024

Course Code	: 2005404	Course Name	Digital Logic Circuits and Design	
Mid Term	: I	Marks : 30M	Regulation : R20 UG	Duration : 90 Min
Year	: II	Semester : IV	Section : A,B&C	Date : 04-04-2024

Part

Q. No	Question (s)	Marks	BL	CO
1	A. Convert the $(101101.1101)_2$ number into Decimal, Octal and Hexadecimal form.	3	L1	CO1
	B. Explain the following (i) Gray code (ii) Excess-3 code (iii) Error detection and correction code (iv) ASCII code	7	L2	
OR				
2	A. Implement AND, OR, NOR and EXOR gates by using NAND gates only.	4	L4	CO1
	B. The Hamming code 101101101 is received; correct it if any errors, 4-parity bits and odd parity is used.	6	L4	
3	A. Simplify the following Boolean function for minimal SoPs form using KMap and implement the simplified expression using NAND gates only. $F(A,B,C,D) = \sum m(0, 1, 2, 3, 5, 7, 8, 9, 11, 14)$	5	L3	CO2
	B. Obtain the simplified expression in SoPs for the following Boolean function $BDE + B'C'D + CDE + A'B'CE + A'B'C + B'C'D'E'$	5	L3	
OR				
4	A. What is meant by Don't care combinations and simplify the given Boolean function together with Don't care conditions using KMap. $F(A,B,C,D) = \sum m(1, 3, 8, 10, 15) + \sum d(0, 2, 9)$	5	L1, L4	CO2
	B. Realize the following expression using NAND and NOR logic separately. $Y = PQ' + QS + Q'RS$	5	L2	
5	A. State and prove any five Boolean algebra theorems.	5	L2	CO1
	B. Show that the NAND and NOR operations are commutative but not associative.	5	L5	CO2
OR				
6	A. Realize the following Boolean function using Multilevel NAND gate circuit. $Y = W(X+Y+Z) + XYZ$	5	L2	CO2
	B. Design a Combinational logic circuit which converts given BCD code to Excess-3 code.	5	L5	CO5

L1-Remembering
L4- Analyzing

L2-Uerstanding
L5-Evaluating

L3-Applying
L6-Creating

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS) B.Tech., Mid Term Examinations April -2024				Dept.: CSE
				Academic Year 2023 – 2024
Course Code	:	2021405	Subject: PROBABILITY THEORY AND STATISTICAL METHODS	
Mid Term	:	I	Marks : 30	Regulation : R20 UG
Year	:	II	Semester : IV	Section : A,B & C
				Duration : 90 Minutes
				Date : 06-04-2024

Answer ALL the questions.

All Questions carry Equal Marks

3 X 10 = 30 Marks

Q. No	Question (s)	Marks	BL	CO																		
1	Two dice are thrown. Let X assign to each point (a, b) in S the maximum of its numbers i.e., $X(a, b) = \max(a, b)$. Determine the probability distribution. X is a random variable with $X(s) = \{1,2,3,4,5,6\}$. Also find the mean and variance of the distribution.	10M	L5	CO1																		
OR																						
2	A random variable X has the following probability distribution. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> </tr> <tr> <td>f(x)</td> <td>0</td> <td>k</td> <td>2k</td> <td>2k</td> <td>3k</td> <td>K^2</td> <td>$2k^2$</td> <td>$7k^2+k$</td> </tr> </table> Determine (i) the value of k (ii) Evaluate $P(X < 6)$, $P(X \geq 6)$, $P(0 < X < 5)$ and $P(0 \leq X \leq 5)$ (iii) $P(X \leq K) > \frac{1}{2}$, find the minimum value of K and, (iv) Mean (v) Variance.	x	0	1	2	3	4	5	6	7	f(x)	0	k	2k	2k	3k	K^2	$2k^2$	$7k^2+k$	10M	L5	CO1
x	0	1	2	3	4	5	6	7														
f(x)	0	k	2k	2k	3k	K^2	$2k^2$	$7k^2+k$														
3	Probability density function of a random variable X is $f(x) = \begin{cases} \frac{1}{2} \sin x, & \text{for } 0 \leq x \leq \pi \\ 0, & \text{otherwise} \end{cases}$ Evaluate the mean, mode and median of the distribution.	10M	L5	CO1																		
OR																						
4	Define Binomial distribution, evaluate mean and variance of Binomial distribution.	10M	L5	CO2																		
5	The distribution of typing mistakes committed by a typist is given below. Assuming the distribution to be poisson, determine the expected frequencies. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>f(x)</td> <td>42</td> <td>33</td> <td>14</td> <td>6</td> <td>4</td> <td>1</td> </tr> </table>	x	0	1	2	3	4	5	f(x)	42	33	14	6	4	1	10M	L5	CO2				
x	0	1	2	3	4	5																
f(x)	42	33	14	6	4	1																
OR																						
6	In a sample of 1000 cases, the mean of a certain test is 14 and standard deviation is 2.5, Assuming the distribution to be normal, determine (i) how many students score between 12 and 15, (ii) how many score above 18, (iii) how many score below 18, (iv) how many score 16?	10M	L5	CO2																		

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS) B.Tech Mid Term Examinations, APRIL 2024		Dept:	AIML
		Academic Year	
		2023 - 2024	
Subject Code	: 2039402	Subject Name : DESIGN AND ANALYSIS OF ALGORITHMS	
Mid Term	: I	Marks : 30	Regulation: R20UG
Year	: II	Semester : IV	Section: A
			Duration : 90 Min
			Date : 02.04.2024

S.No.	QUESTION	Mark s	BL	CO
1)	What is an algorithm? Explain its Specifications in detail?	10M	L1	CO1
OR				
2a)	Explain the terms Big oh notation and Theta notation ?	5M	L2	CO1
2b)	Prove that $3n+2=O(n)$ as $3n+2 \leq 4n$ for all $n \geq 2$?	5M	L2	CO1
3a)	What are sets? Write about union and disjoint sets?	5M	L1	CO1
3b)	What is a Collapsing Rule? Explain it with an example?	5M	L1	CO1
OR				
4. a)	Write the algorithm for divide and conquer general method?	5M	L1	CO2
b)	Write Binary Search Recursive algorithm and explain Binary search process with an example?	5M	L2	CO2
5. a)	Explain Strassen's matrix multiplication method in detail?	5M	L1	CO2
b)	Write the algorithm for Finding the Maximum and Minimum values in the algorithm?	5M	L2	CO2
OR				
6.	Apply greedy method to solve the following knapsack instance- $n=5$, weights(w_1, w_2, w_3, w_4, w_5)= $(5, 10, 20, 30, 40)$ & profits (p_1, p_2, p_3, p_4, p_5)= $(30, 20, 100, 90, 160)$ with knapsack capacity $m=60$?	10M	L2	CO2

K.S.R.M. College of Engineering, Kadapa (Autonomous) B.Tech. Mid Term Examinations April-2024						Dept.:	AI&ML		
						Academic Year			
						2023 – 2024			
Subject Code	:	2039403	Subject:	OPERATING SYSTEMS					
Mid Term	:	I	Marks:	30M	Regulation:	R20UG	Duration: 90 Min		
Semester	:	IV	Section:	---			Date: 03-04-2024		

Q. No	Question (s)	Marks	BL	CO
1.	What is an Operating System? Explain the different functions of Operating System.	10M	L2	CO1
(OR)				
2.	A) Explain the different types of system calls.	5M	L2	CO1
	B) Explain about overview of Computer Operating Systems	5M	L2	CO1
3.	A) Explain about the services provided by operating systems	5M	L2	CO1
	B) Describe any two structures of operating systems.	5M	L1	CO1
(OR)				
4.	Explain about different scheduling algorithms with examples.	10M	L2	CO2
5.	A) What is a process? Explain the process state transition diagram with example.	5M	L2	CO2
	B) What is critical section? Write Peterson's solution for critical section problem.	5M	L3	CO2
(OR)				
6.	A) Write short notes on semaphores.	5M	L2	CO2
	B) What is a monitor? Write the solution for the Dining- Philosopher's problem using a monitor.	5M	L3	CO2

K.S.R.M. College of Engineering, Kadapa (Autonomous) B. Tech Mid Term Examinations April – 2024					Dept	AIML
					Academic Year	
					2023 – 2024	
Subject Code	: 2039404	Subject:	DATA SCIENCE			
Mid Term	: I	Marks:	30 M	Regulation :	R20UG	Duration: 90 Min
Semester	: IV	Section:	-			Date:04 .04.2024

Q. No	Question (s)	Marks	BL	CO
1.	a) Illustrate the use of Data Science with an example	5M	L1	CO1
	b) Explain role and stages in data science?	5M	L2	CO1
(OR)				
2.	a) What are the goals of data science?	5M	L1	CO1
	b) Compare Big Data with Data Science.	5M	L1	CO1
3.	a) Explain the following a) Linear Regression b) Logistic Regression	5M	L2	CO2
	b) With an example describe the k-means algorithm.	5M	L3	CO2
	(OR)			
4.	a. What is a Spam filter. Explain about different types of Spam filters.	5M	L2	CO2
	b. Describe theoretically the Naïve Bayes theorem to model a sophisticated spam filter.	5M	L3	CO2
5.	Write the formula for Bayes Theorem and explain Naïve Bayes classifier with necessary routine.	10M	L3	CO2
(OR)				
6.	a. What is data science Redux? Explain Data Visualization Project in detail.	5M	L2	CO3
	b. Compare Mark's Data Visualization Projects with Data Visualization at Square.	5M	L2	CO3

K.S.R.M COLLEGE OF ENGINEERING, KADAPA (AUTONOMOUS) B. Tech - Mid Term Examinations April - 2024				Dept.:	H & S		
				Academic Year		2023 – 2024	
				Subject Code : 20MC409		Subject: Constitution of India (MC)	
Mid Term	:	I	Marks: 30	Regulation: R20 UG	Duration: 90 Min		
Year	:	II	Semester: IV	Section: -- AI & ML	Date: 08-04-2024		

Answer the following questions 3×10 =30M

Q. No	Question (s)	Marks	CO	BL
1	Define COI and explain the important features of Constitution of India	10	CO409.1	L-1
(OR)				
2	Explain the fundamental rights and duties of Indian citizen.	10	CO 409.1	L-2
3	Explain the following. a) Ways of acquiring citizenship in India b) Liberal intellectual and Gandhi and principles of DPSP	5 5	CO 409.2	L-2
(OR)				
4	Explain the Qualifications, role and the functions of President of India	10	CO 409.2	L-2
5	Explain the powers and functions of Prime Ministers of India	10	CO 409.2	L-2
(OR)				
6	Explain the appointment of Judges and functions and powers of supreme Court of India	10	CO 409.2	L-2

- 1- Remembering,
- 2- Understanding,
- 3- Applying,

- 4 – Analysing,
- 5 – Evaluating,
- 6 - Creating

K.S.R.M. College of Engineering, Kadapa (Autonomous) B.Tech. Mid Term Examinations April-2024						Dept.:	AI&ML		
						Academic Year		2023 – 2024	
Subject Code	:	2039403	Subject:	BUSINESS INTELLIGENCE					
Mid Term	:	I	Marks:	30M	Regulation:	R20UG	Duration: 90 Min		
Semester	:	IV	Section:	---			Date: 27-04-2024		

Q. No	Question (s)	Marks	BL	CO
1.	Explain OLAP and OLTP with example?	10	L1	CO 1
(OR)				
2.	a) What is Data Modelling?	5	L1	CO 1
	b) How Data Warehouse is used in different industries, point out 3?	5	L3	CO 1
3.	a) Define Data Analysis?	5	L1	CO 1
	b) Define Data Insights?	5	L1	CO 1
(OR)				
4.	Explain why Data Mining is useful for Business, with real-time examples?	10	L3	CO 2
5.	a) What are the types of Metadata?	5	L2	CO 2
	b) What are the benefits of Metadata?	5	L2	CO 2
(OR)				
6.	a) What is MDM, why it's important with an example?	5	L3	CO 2
	b) Why Data Warehouse and MDM should work together?	5	L3	CO 2