Hall Ticket Number :										

R-20

Code: 20A2H08T

III B.Tech. II Semester Regular Honors Examinations May/June 2024

Electric Vehicles

(Electrical and Electronics Engineering)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

		CO	BL
1.	Answer ***all*** the following short answer questions (5 X 2 = 10M)		
	a) Write any 2 Present major issues in EV systems	1	L1
	b) Explain the function of a solenoid	2	L1
	c) What is mean by discharge rate of a battery	3	L1
	d) Advantage of AC machines over DC machines	3	L1
	e) Write short notes on motor sizing	5	L1

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

		Marks	CO	BL
	UNIT–I			
2.	Explain historical and resent developments in electric vehicles	12M	1	L2
	OR			
3.	With neat block diagram explain concept of electric vehicles	12M	1	L2
	UNIT–II			
4.	Write short notes on any 4 electrical vehicle parameters	12M	2	L1
	OR			
5.	Explain following Electrical terms a) Relays b) Capacitors c) Ac motor & Ac Generator d) Dc motor & Dc Generator e) Battery	12M	2	L2
	UNIT–III			
6.	Explain Technical characteristics and Properties of Batteries.	12M	3	L2
	OR			
7.	Explain classification of batteries, Capacity, Discharge rate	12M	3	L2
	UNIT–IV			
8.	Explain different types of electrical machines that are used in EV systems	12M	4	L2
	OR			
9.	Explain three phase AC induction machine used in EV systems	12M	4	L2
	UNIT–V			
10.	Explain different Components like gears, differential, clutch in Electric vehicles	12M	5	L2
	OR			
11.	What is mean by braking? Why breaking need to be employed in electric vehicles. What are different types of braking?	12M	5	L3

*** End ***

Hall Ticket Number :										

R-20

Code: 20A262T

III B.Tech. II Semester Regular & Supplementary Examinations May/June 2024

Microprocessors and Microcontrollers

(Electrical and Electronics Engineering)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

1. Answer ***all*** the following short answer questions (5 X 2 = 10M) CO BL

a) List the features of 8086 microprocessors CO1 L1

b) List the modes of operation of 8255 CO2 L1

c) What are differences of SPI and I2C protocols CO3 L2

d) What are the different addressing modes of 8051 microcontroller CO4 L2

e) List and explain the registers available in user mode of an ARM device CO5 L1

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

Marks CO BL

UNIT–I

2. a) Explain about machine language instruction format and addressing modes in 8086 6M CO1 L4

b) Mention the total number of registers of 8086 and show the manner in which they are grouped 6M CO1 L2

OR

3. a) Explain in detail the memory organization mechanism in 8086 microprocessor 6M CO1 L2

b) Mention the address capability of 8086 and also show its memory map of overlapped and non overlapped method. 6M CO1 L4

UNIT–II

4. a) What is peripheral interfacing? Explain the block diagram of 8255 6M CO2 L2

b) Explain various modes of operation of 8255 6M CO2 L2

OR

5. a) Draw and explain the block diagram of 8259 interrupt controller 6M CO2 L4

	b)	Explain in detail about interfacing of 8255 to 8086	6M	CO2	L2

UNIT–III

6.	a)	Discuss in detail about synchronous communication	6M	CO3	L2
	b)	Explain in detail about SPI	6M	CO3	L2
		OR			
7.	a)	Describe RS232C to TTL conversion.	6M	CO3	L2
	b)	Discuss about blue tooth communication module	6M	CO3	L2

UNIT–IV

8.	a)	How bit level XOR operations can be done in 8051.	6M	CO4	L5
	b)	Explain the various addressing modes in 8051 microcontroller.	6M	CO4	L2
		OR			
9.	a)	Discuss about memory organization of 8051 microcontroller	6M	CO4	L2
	b)	Explain in detail about serial communication of 8051 microcontroller	6M	CO4	L2

UNIT–V

10.	a)	Discuss the architecture of ARM with a neat diagram	6M	CO5	L2
	b)	Differentiate the ARM 7 and ARM9 microcontroller	6M	CO5	L2
		OR			
11.	a)	Explain the I/O ports timers in arduino.	6M	CO5	L2
	b)	Explain the concept of PWM and ADC in arduino	6M	CO5	L2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A261T

III B.Tech. II Semester Regular & Supplementary Examinations May/June 2024

Power System Analysis

(Electrical and Electronics Engineering)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A
(Compulsory question)

			CO	BL
1.	Answer ***all*** the following short answer questions	(5 X 2 = 10M)		
a)	Write Applications of Bus Admittance Matrices		1	L2
b)	What is necessity of power flow studies		2	L2
c)	Explain Positive, Negative and zero sequence components in power systems		3	L2
d)	Describe the steady state stability power limit		4	L2
e)	List out the applications of equal area criterion		5	L2

PART-B
Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

		Marks	CO	BL
	UNIT–I			
2.	Obtain admittance matrix from basics using singular transformation method.	12M	1	L2
	OR			
3.	Obtain Y_{BUS} for a 4 - bus system with the following data			

Bus Code	Series Impedance(Z_{pq})	Shunt Admittance (y_{pq})
1 - 2	0.02 + j0.08	j0.08
2 - 3	0.04 + j0.16	j0.05
2 - 4	0.04 + j0.16	j0.025
3 - 4	0.01 + j0.04	j0.03

12M 1 L3

	UNIT–II			
4. a)	Derive Static load flow equations in power system	6M	2	L2
b)	Explain the Gauss Seidel method Algorithm without P-V buses	6M	2	L4
	OR			
5.	Obtain the mathematical model for fast decoupled method of load flow analysis and State the assumptions made in this method	12M	2	L3

UNIT–III

6. a) Explain impedance diagram and reactance diagrams — 6M — 3 — L2

   b) The ratings of a three phase power system shown in Fig.1. are given below

   G : 60 MVA 20kV X=9%
   T1: 50MVA 20/200kV X=10%
   T2: 50MVA 200/20kV X=10%
   M: 43.2 MVA 18kV X=8%
   Line: 200kV Z= 120+j200 Ω

   Draw the impedance diagram showing all impedances in per unit on a 100MVA base. Choose 20 kV as the voltage base for generator — 6M — 3 — L3

OR

7. Derive the expression for the fault current, when an unloaded alternator subjected to LL and LLG fault — 12M — 3 — L2

UNIT–IV

8. a) Define the terms Steady state, Dynamic state and Transient state stability limit — 6M — 4 — L2

   b) A salient pole synchronous generator is connected to an infinite bus. Derive an expression for the electrical output power of the generator and draw P - δ curve — 6M — 4 — L3

OR

9. Prove that maximum power transfer can be achieved when X=√3 R — 12M — 4 — L3

UNIT–V

10. a) What is critical clearing angle? Derive the mathematical expression for critical clearing angle — 6M — 5 — L3

    b) Discuss in brief the methods to improve Transient Stability — 6M — 5 — L2

OR

11. Explain the Equal Area Criterion by deriving the necessary expression and apply the Equal Area Criterion for the case of "**Removal of one of parallel transmission line**" for analyzing the transient stability — 12M — 5 — L4

*** End ***

Hall Ticket Number :										

R-20

Code: 20A26BT

III B.Tech. II Semester Regular & Supplementary Examinations May/June 2024

Power Semiconductor Drives

(Electrical and Electronics Engineering)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

		CO	BL
1.	Answer ***all*** the following short answer questions (5 X 2 = 10M)		
a)	Write the generalized equations of DC motor?	CO1	L2
b)	Define Braking? And give various types of braking.	CO1	L1
c)	List the various types of basic chopper configuration?	CO1	L3
d)	Draw the v/f characteristics of Induction motor controlled from Stator side?	CO2	L4
e)	Brief about Slip power Recovery scheme?	CO1	L3

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

			Marks	CO	BL
		UNIT–I			
2.	a)	Explain the Speed torque Characteristics of a dc series motor connected to a three phase fully controlled converter	6M	CO3	L3
	b)	A 18HP, 210V series motor running at 1300 rpm is controlled by 1ϕ -full converter, combined field and armature resistance 0.75Ω. Following are motor constants Kaf = 0.03 N –m/A^2, Kres = 0.075 V-s/rad, Supply voltage is 230V. Determine Torque and Power factor for α = 45^0 and speed 1500rpm, assuming continuous and ripple free motor current.	6M	CO4	L4
		OR			
3.	a)	Discuss about continuous operation of a 1ϕ rectifier fed DC series motor?	6M	CO2	L3
	b)	The speed of a separately excited dc motor is controlled by 3 phase semi-converter from a 3 phase 415 V 50 Hz supply. The motor constants are inductance10 mH, resistance 0.9 ohm and armature constant 1.5 v-s/rad. Calculate speed of the motor at a torque of 50 Nm when the converter is fired at 45^0. Neglect losses in the converter.	6M	CO4	L4
		UNIT–II			
4.	a)	Explain briefly four-quadrant operation of d.c separately excited motor fed from fully controlled rectifier.	6M	CO2	L3
	b)	Distinguish between two quadrant and four quadrant drives.	6M	CO3	L3
		OR			
5.		Explain briefly the following methods of braking of a D.C Motor a) Regenerative braking b) Dynamic braking c) Plugging	12M	CO2	L4
		UNIT–III			
6.	a)	Distinguish between class A and class B choppers with suitable examples for speed control of motors.	6M	CO2	L3

b) A 230V, 500 rpm, 4.1A armature resistance and inductances are 7.56 Ω and 55.0 mH respectively of 1HP motor is driven with armature supplied from class A chopper and a 240V DC source. The field current is held constant at the value that gives rated operation on 230V the chopping frequency is constant at 50 Hz .The minimum load torque is 5 N-m

i. Determine the value of 'ton' N-m
ii. Determine whether 'Ia' continuous for the conditions of (i)
iii. Determine the minimum value of 'ton' for which the current is continuous at 500 rpm and corresponding coupling torque — 6M CO4 L4

OR

7. A 230V, 1750 rpm, 74A D.C motor has an armature resistance is 0.180 ohms is driven with its armature supplied from a class A chopper and a 240 V. D.C source given rated operation on 230V. The chopping frequency is constant at 500 Hz. If the average armature current is equal to the rated value and 'ton' is at the setting that given largest harmonic content determine a) The speed of motor b) The RMS armature current c) The RMS and line currents ripple factors — 12M CO4 L4

UNIT–IV

8. a) A 3-ϕ, 415V, 50Hz, 4-pole, star connected induction motor has the following equivalent circuit parameters: R1=1.01Ω, R_2^1=0.69Ω, X1=1.08Ω, X_2^1=1.60Ω, Xm = 36Ω. The no load loss is negligible. The rated torque, proportional to square of the speed, is 42 N-m, at full load speed of 1450rpm for a motor speed of 1290 rpm, determine (i) load torque, (ii) rotor current I_2^1 (iii) The stator supply voltage — 6M CO4 L4

b) Discuss about various speed control arrangements using Voltage Source Inverter? — 6M CO3 L2

OR

9. a) Discuss about various speed control arrangements using Voltage Source Inverter? — 6M CO3 L2

b) Derive the Expression in Static Resistance control method for the speed control of Induction Motor? — 6M CO2 L3

UNIT–V

10. A 440V, 50Hz, 970 rpm, 6-pole, Y-connected, 3-phase wound rotor induction motor has following parameters referred to the stator:

The stator to rotor turns ratio is 2.

Motor speed is controlled by Static Scherbius Drive. Drive is designed for a speed range of 25% below the synchronous speed. Maximum value of firing angle is 165^0. Calculate (i) Transformer turns ratio. (ii) Torque for a speed of 780rpm and $\alpha=140^0$ (iii) Firing angle for half the rated motor torque and speed of 800rpm — 12M CO4 L4

OR

11. a) Explain with neat diagram about Load Commutated Inverter fed Synchronous motor speed control? — 6M CO2 L3

b) A 6 MW, 3-phase, 11 kV, Y-connected, 6-pole, 50Hz, 0.9(leading) power factor synchronous motor has Xs=9Ω and Rs=0. Rated field current is 50A.

Machine is controlled by variable frequency control at constant v/f ratio up to the base speed and at constant V above based speed. Determine

(i) Torque and field current for the rated armature current, 750rpm and 0.8 leading power factor
(ii) Armature current and power factor for half the rated motor torque, 1500rpm and rated field current. — 6M CO4 L4

*** End ***

Hall Ticket Number :										

R-20

Code: 20A263T

III B.Tech. II Semester Regular & Supplementary Examinations May / June 2024

Power System Operation and Control

(Electrical and Electronics Engineering)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two mark.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

		CO	BL
1.	Answer ***all*** the following short answer questions (5 X 2 = 10M)		
	a) Draw the input-output curve of a generating unit?	1	2
	b) Write the unit of R?	2	2
	c) What is the maximum permissible change in frequency?	3	2
	d) List out the sources of reactive power?	4	2
	e) What is the function of power exchange?	5	2

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

		Marks	CO	BL
	UNIT–I			
2.	a) Derive the condition for optimum dispatch including transmission losses?	6M	1	3
	b) Incremental fuel costs in Rs/MWh for two units in a plant are given by $\frac{dF_1}{dP_1} = 0.1P_1 + 30; \frac{dF_2}{dP2} = 0.12P_2 + 16$. The minimum and maximum loads on each unit are to be 20 MW and 125 MW respectively. Determine the incremental fuel cost and the allocation of load between units for the minimum cost when load is 150 MW. Assume both the units are operating	6M	1	3
	OR			
3.	a) Fig. below shows a two bus system. If a load of 125 MW is transferred from plant 1 to load, a power loss of 15.625 MW occurs. Find generation schedule and load demand if cost of received power is Rs.24/MWh. The incremental production costs are $\frac{dF_1}{dP_1} = 0.025P_1 + 15; \frac{dF_2}{dP2} = 0.05P_2 + 20$ 	6M	1	4
	b) Derive expression for B_{mn} coefficients?	6M	1	3
	UNIT–II			
4.	Derive solution for short term hydro-thermal scheduling using kirchmayer's method	12M	2	3
	OR			

5.		Explain about hydro – thermal co-ordination with necessary equations	12M	2	2

UNIT–III

6.	a)	Explain the necessity of maintaining frequency constant.	6M	3	2
	b)	Determine primary ALFC loop parameters for a control area having following parameters. Total rated capacity=2000MW Nominal operating load=1000MW Inertia Constant H=5 Regulation R=2.4 Hz/pu MW Assume that load increases 1% for 1% increase in frequency?	6M	3	4

OR

7.	a)	Two synchronous generators operate in parallel and supply a total load of 400MW, the capacities of machines are 200MW and 500MW and both have generator drooping Characteristics of 4% from no load to full load. Calculate the load taken by the each machine. Assuming free governor action also finds system frequency at this load	6M	3	4
	b)	Explain the PI control of single area system?	6M	3	2

UNIT–IV

8.	a)	Explain the advantages and disadvantages of synchronous condenser.	6M	4	2
	b)	What is the role of reactive power in the power system? Discuss in detail about the generation and absorption of reactive power in power system components	6M	4	2

OR

9.	a)	Distinguish shunt and series compensations?	6M	4	2
	b)	A short transmission line has an impedance of (2+j3) ohms interconnects two power stations, A and B both operating at 11 KV, equal in magnitude and phase. To transfer 25 MW at 0.8 p.f. lagging from A to B determine the voltage boost required at plant A.	6M	4	3

UNIT–V

10.	a)	Explain the roles and responsibilities of ISO in pool market?	6M	5	2
	b)	Explain about congestion pricing?	6M	5	2

OR

11.		Explain about different transmission pricing methods in power systems?	12M	5	2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A26DT

III B.Tech. II Semester Regular & Supplementary Examinations May / June 2024

Solar and Wind Energy Systems

(Electrical and Electronics Engineering)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

1.	Answer ***all*** the following short answer questions (5 X 2 = 10M)		CO	BL
	a)	What are the different applications of solar PV system?	CO1	L2
	b)	What is a solar PV module?	CO2	L2
	c)	What is pitch control in wind energy conversion system.	CO3	L1
	d)	What are the criteria for site selection of a windmill?	CO4	L2
	e)	What is power quality issue?	CO5	L2

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

			Marks	CO	BL
		UNIT–I			
2.	a)	Express the estimation process of solar radiation.	6M	CO1	L2
	b)	Write short note on (i) parabolic through (ii) Fresnel	6M	CO1	L2
		OR			
3.	a)	Draw the block diagram of Solar PV Tracking System and discuss.	6M	CO1	L2
	b)	Explain parabolic trough collector for solar system.	6M	CO1	L2
		UNIT–II			
4.	a)	Classify the solar cells. Derive an expression for maximum power output and efficiency of solar cells.	6M	CO2	L2
	b)	Describe the operation of power electronic converter for solar systems	6M	CO2	L2
		OR			
5.		Illustrate the following terms for solar photovoltaic: (i) Amorphous (ii) monocrystalline (iii) polycrystalline	12M	CO2	L2

UNIT–III

6.	a)	Describe the basic principle of wind energy conversion and derive the expression for power developed due to wind.	6M	CO3	L2
	b)	Find the tip-speed ratio if a 6 m diameter rotor has rotation of 20 rpm and the wind speed is 4 m/s. What is the implication of tip speed ratio?	6M	CO3	L3

OR

7.	a)	Illustrate the following terms for wind system: (i) Betz limit (ii) Tip speed ratio	6M	CO3	L2
	b)	History of wind power in Indian and Global statistics	6M	CO3	L2

UNIT–IV

8.	a)	Explain the operation and characteristics of doubly-fed induction generator.	6M	CO4	L2
	b)	Discuss the operation of power electronic converter in wind power plant.	6M	CO4	L2

OR

9.	a)	Discuss the operation and characteristics of Permanent-Magnet Synchronous Generators	6M	CO4	L2
	b)	Describe the Generator-Converter configurations for wind system	6M	CO4	L2

UNIT–V

10.	a)	Discuss the behavior of solar PV and wind farm during grid disturbances	6M	CO5	L2
	b)	Describe the real and reactive power regulations in grid integration	6M	CO5	L2

OR

11.		Explain the operation of hybrid solar PV and wind power system	12M	CO5	L2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A33M02

III B.Tech. II Semester Minors Regular Examinations May/June 2024

Fundamentals of Machine Learning

(Common to CE, EEE, ME and ECE)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A
(Compulsory question)

1. Answer ***all*** the following short answer questions (5 X 2 = 10M) CO BL

a) Define supervised learning. CO1 L1

b) What is loss function? CO2 L2

c) Define conditional probability. CO3 L1

d) What is the metric to measure the uniformity of target function? CO4 L2

e) Define Agent. CO5 L1

PART-B
Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

Marks CO BL

UNIT–I

2. a) Summarize the issues in machine learning? 6M CO1 L1

b) Define the perspectives in machine learning. How does hypothesis space represented in machine learning? 6M CO1 L2

OR

3. Apply the Candidate Elimination algorithm for the given set of training examples. Placed is the target value. Find the general and specific boundary hypothesis for the given dataset.

verbal	technical	aptitude	test1	test2	CGPA	Placed
Better	Good	Medium	High	High	Excellent	Yes
Better	Good	High	High	High	Excellent	Yes
Normal	Medium	High	High	Medium	Medium	No
Better	Good	High	High	High	Medium	Yes

12M CO1 L3

UNIT–II

4. a) Illustrate the artificial neural network with 3 inputs, 5 nodes in hidden layer and binary class output layer. Explain the forward propagation. 6M CO2 L3

b) Explain the various activation functions in machine learning. 6M CO2 L2

OR

5. Apply the ID3 decision tree algorithm to classify the given dataset. All leaf nodes should be classified as approved **Yes** or **No** in a tree. It states that advertisement is broadcasting proposal is approved or not.

Price	Newspaper	Youtube	FB	TV	Approved
30-40L	Yes	Yes	No	No	Yes
30-40L	Yes	No	Yes	Yes	Yes
40-50L	Yes	No	No	Yes	No
30-40L	Yes	Yes	Yes	Yes	Yes
20-30L	No	No	No	No	No
30-40L	Yes	No	No	Yes	No
50-60L	Yes	No	No	No	Yes
40-50L	No	No	No	Yes	No
30-40L	Yes	Yes	No	No	Yes
20-30L	No	Yes	No	Yes	No

12M CO2 L3

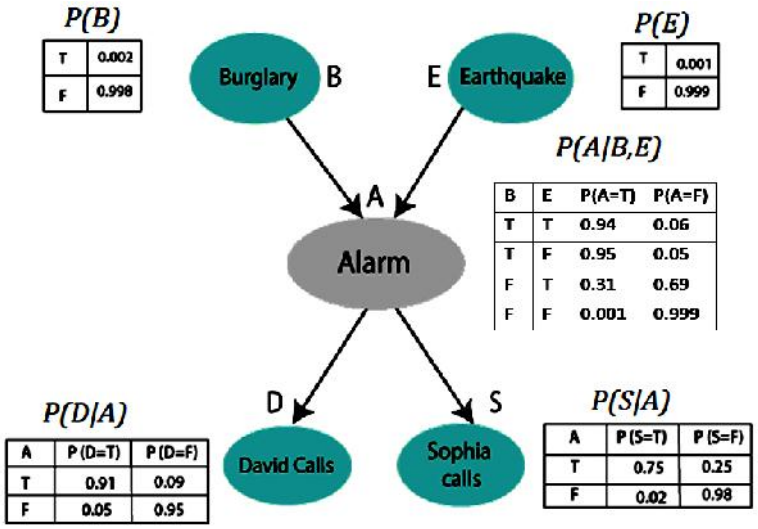
UNIT–III

6. a) Apply Bayes theorem to find Maximally A Posteriori hypothesis from hypotheses space. 6M CO3 L3

b) Describe the Minimum Description Length principle. 6M CO3 L2

OR

7. a)



Apply the BBN to calculate the probability that alarm has sounded, but there is neither a burglary, nor an earthquake occurred, and David and Sophia presumed that they heard the alarm sound**.** 6M CO3 L3

b) Describe all the necessary steps of fitness function evaluation using genetic algorithm. 6M CO3 L2

UNIT–IV

8. a) Discuss the sequential covering algorithm in learning rules. 6M CO4 L2

b) Summarize the PROLOG-EBG properties. 6M CO4 L2

OR

9. a) Explain the first order inductive learning rule. 6M CO4 L2

b) Discuss the inverted resolution rule learning. 6M CO4 L2

UNIT–V

10. a) Illustrate the markov-decision process in learning the environment. 6M CO5 L2

b) Differentiate the inductive and analytical learning. 6M CO5 L2

OR

11. a) Summarize the components and its features of reinforcement learning. 6M CO5 L2

b) How does the knowledge used to alter the search objective? 6M CO5 L2

*** End ***

Hall Ticket Number :										

R-20

Code: 20A5M05

III B.Tech. II Semester Minors Regular Examinations May/June 2024

Computer Organization

(Common to CE, EEE, ME and ECE)

Max. Marks: 70 Time: 3 Hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. In Part-A, each question carries **Two marks.**
3. Answer **ALL** the questions in **Part-A** and **Part-B**

PART-A

(Compulsory question)

			CO	BL
1.	Answer ***all*** the following short answer questions	(5 X 2 = 10M)		
	a)	Differentiate between combinational and sequential circuits.	1	L2
	b)	What is register transfer language?	2	L1
	c)	What are the functions of control memory?	3	L1
	d)	What is cache memory?	4	L1
	e)	What is the need of I/O interface module	5	L1

PART-B

Answer *five* questions by choosing one question from each unit (5 x 12 = 60 Marks)

			Marks	CO	BL
		UNIT–I			
2.	a)	Explain the floating point representation with an example.	6M	1	L2
	b)	Explain about the error detection codes.	6M	1	L2
		OR			
3.	a)	Perform and explain arithmetic addition, subtraction, and overflow detection using fixed point representation.	6M	1	L2
	b)	Describe the different types of computers.	6M	1	L2
		UNIT–II			
4.	a)	Discuss about the arithmetic logic shift unit with examples.	6M	2	L3
	b)	Describe the memory reference instructions with an example.	6M	2	L2
		OR			
5.	a)	Explain about the arithmetic micro operations.	6M	2	L2
	b)	Explain about the RISC architecture.	6M	2	L2
		UNIT–III			
6.		Explain in detail about micro programed Address sequencing with block diagram	12M	3	L2
		OR			

7.	a)	Compare the hard wired control unit and micro programmed control unit	6M	3	L3
	b)	Explain the operation of a Micro programmed control unit using a diagram	6M	3	L2

UNIT–IV

8.		Explain how multiplication is done for floating point numbers with flow chart.	12M	4	L2

OR

9.		With a neat block diagram explain the virtual memory address translation	12M	4	L2

UNIT–V

10.	a)	Discuss about Input-Output Interface	6M	5	L2
	b)	What is priority interrupt? Discuss about daisy chaining priority interrupt.	6M	5	L2

OR

11.	a)	Explain about DMA	6M	5	L2
	b)	Explain the five stage Instruction pipeline with timing diagram.	6M	5	L2

*** End ***