

Hall Ticket Number :										
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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

- 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) 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 programmed 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 ***

Hall Ticket Number :

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R-20

Code: 20A16BT

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

Construction Project Management

(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

- 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) Write down the elements of project planning | 1 | L1 |
| b) Define float and total float | 2 | L1 |
| c) How do you improve the scheduling process? | 3 | L2 |
| d) What do you mean by budget update? | 4 | L1 |
| e) Write down the principles of safety. | 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. a) What are the basic principles of planning? Explain the stages and types of planning in construction management
- | | | |
|----|---|----|
| 6M | 1 | L2 |
|----|---|----|
- b) How can construction management education improve the efficiency of the construction Industry in the future?
- | | | |
|----|---|----|
| 6M | 1 | L2 |
|----|---|----|

OR

3. a) Explain in detail about how to estimate activity durations
- | | | |
|----|---|----|
| 6M | 1 | L2 |
|----|---|----|
- b) Write a short note on monte carlo simulations
- | | | |
|----|---|----|
| 6M | 1 | L2 |
|----|---|----|

UNIT-II

4. a) What are the methods of project scheduling? What is meant by scheduling and controlling
- | | | |
|----|---|----|
| 6M | 2 | L2 |
|----|---|----|
- b) Differentiate between PERT and CPM
- | | | |
|----|---|----|
| 6M | 2 | L2 |
|----|---|----|

OR

5. Draw a PERT network for the following and find expected mean time, variance and SD of the project

Activity	Three time estimates (days)
0-1	2-3-10
0-2	4-5-6
1-2	0-0-0
1-3	6-7-8
1-4	1-5-9
2-5	3-5-19
3-4	0-0-0

12M 2 L4

UNIT-III

6. a) Briefly explain various methods of scheduling 6M 3 L2
 b) Describe in detail about monte carlo schedule simulation with example 6M 3 L2

OR

7. Explain in detail about crashing for optimum cost and crashing for optimum resources. 12M 3 L2

UNIT-IV

8. a) Explain the method of determining the cost of resources in a construction project 6M 4 L2
 b) Briefly discuss about financial accounting systems in construction projects 6M 4

OR

9. a) What is cash flow projection in construction projects? How do you manage cash flow in construction projects 6M 4 L2
 b) How does a project schedule and budget impact the project as a whole? 6M 4 L2

UNIT-V

10. a) How are employees involved in quality management? How can they contribute to improve quality? Explain with examples. 6M 5 L2
 b) Differentiate between sampling by attribute and sampling by variables in quality control 6M 5 L2

OR

11. Describe different approaches to improve the safety in construction. 12M 5 L2

*** End ***

Hall Ticket Number :

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R-20

Code: 20A162T

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

Engineering Estimation, Costing and Valuation

(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

- 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) Differentiate between General specification and Detailed specification. | 1 | L1 |
| b) State the data required for the detailed estimate. | 2 | L2 |
| c) Explain any one method for calculation of earthwork. | 3 | L1 |
| d) What do you understand by Item Rate Contract? Also mention advantages of this contract. | 4 | L5 |
| e) Calculate no of labours required for 12mm thick plaster if total work done is to be done is 50m ² . | 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. Write down the detailed specifications for the following items of works:
- | | | | |
|---|-----|---|----|
| a) Earthwork in excavation in foundation | | | |
| b) Reinforced cement concrete | | | |
| c) Damp proof course 2.5cm of cement concrete 1:1.5:3 | | | |
| d) First class brick work in super structure. | 12M | 1 | L3 |

OR

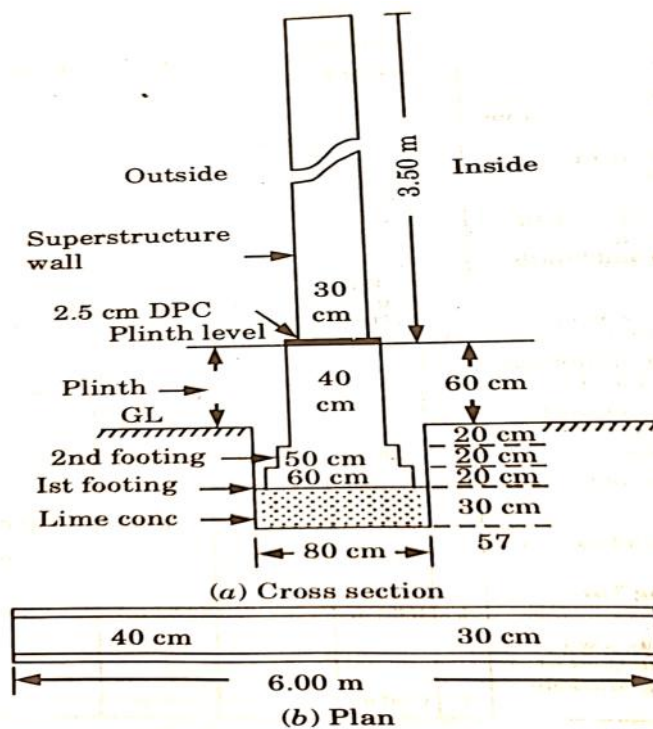
3. What do you understand by approximate estimates? Explain its types. 12M 1 L2

UNIT-II

4. a) Explain all methods of detailed estimates. 6M 2 L2
- b) Mention the unit of measurements for
- | | | | |
|---|-------------------------------|----|------|
| i) Thin Partition walls | ii) Iron grills | | |
| iii) 25 mm cement concrete flooring | | | |
| iv) Earthwork in excavation of depth of 10 cm | | | |
| v) Steel wooden truss | vi) RCC in slab | | |
| vii) Pointing | viii) Cast Iron Reinforcement | | |
| ix) Rafter Beam | x) Cornice | | |
| xi) Electric work | xii) Brick Soling | 6M | 2 L1 |

OR

5. Prepare a detailed estimate of part of a wall of a building from the given plan and section and general specifications as shown in figure below.



12M 2 L4

UNIT-III

6. Calculate the quantity of earthwork for bank of canal from the following data
- Top width: 1.8m
 - R.L of top of bank: 104m
 - Side slope 2:1 on one side and 2.5:1 on other side

Chainage	30	60	90	120	150
Ground Level	101.5	101.3	101.15	101.00	99.00

12M 3 L5

OR

7. State the most accurate method for the calculation of earthwork.

12M 3 L6

UNIT-IV

8. What is tender? What are the various features essential for a tender?

12M 4 L1

OR

9. a What is Valuation? Also explain the necessity of valuation of property.
b Explain the following terms:
i) Scrap Value ii) Speculative value iii) Distress Value

6M 4 L1

6M 4 L2

UNIT-V

10. What do you understand by 'Analysis of Rates'? What are purposes of rate of analysis? Give factors which affect the analysis of rates.

12M 5 L2

OR

11. Describe in detail the procedure of rate of analysis for reinforced brickwork, concrete work, earth work, plastering and painting.

12M 5 L6

*** End ***

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R-20

Code: 20A163T

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

Soil Mechanics
(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

- 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) Draw a 3-phase diagram of soil. | CO1 | L1 |
| b) Differentiate between effective stress and total stress. | CO2 | L2 |
| c) What is a pressure bulb? | CO3 | L2 |
| d) Define the term over consolidated soil | CO4 | L1 |
| e) What is Mohr's stress circle? | 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) Define the terms: Relative density, Specific gravity and Degree of saturation. 6M 1 L1
- b) A sample of soil weighing 30.5 kg had a volume of 0.0190 m³. When oven dried its weight was reduced to 26.9 kg. The specific gravity of solids was found to be 2.70. Determine the bulk density, water content and void ratio. 6M 1 L3

OR

3. a) What is a particle size distribution curve? How it is obtained in the laboratory for a given soil. 6M 1 L2
- b) Write briefly about Indian Standard Soil Classification system. 6M 1 L2

UNIT-II

4. a) Explain the determination of coefficient of permeability by constant head method. 6M 2 L2
- b) The soil profile consists two layers with top layer of sand 3 m thick with unit weight of 16 kN/m³ and bottom layer of clay 4 m thick with saturated unit weight of 19 kN/m³. The water table is at a depth of 3 m below the ground level. Determine the effective stresses at various levels. 6M 2 L3

OR

5. a) What is a seepage pressure? Explain the quick sand condition. 6M 2 L2

- b) Derive the expression to determine the average coefficient of permeability in the horizontal direction for layered soil. 6M 2 L4

UNIT-III

6. a) Explain Newmark's influence chart. 6M 3 L2
- b) A load of 1000 kN acts as a point load at the surface of a soil mass. Estimate the stress at a point 3 m below and 4 m away from the point of action of the load by Boussinesq's formula. 6M 3 L3

OR

7. a) Distinguish between Boussinesq's and Westergaard's theories of stress distribution in soils. 6M 3 L2
- b) A water tank is supported by the ring foundation having outer diameter 10 m and inner diameter 7 m. The ring foundation transmits uniform load intensity of 160 kN/m². Compute the vertical stress at a depth of 4 m below the centre of ring foundation. 6M 3 L3

UNIT-IV

8. a) Describe the factors affecting the compaction of soil. 6M 4 L2
- b) Write briefly on compaction control in the field. 6M 4 L2

OR

9. a) Define the terms: compression index, coefficient of consolidation, and coefficient of volume change. 6M 4 L2
- b) In a consolidation test done in the laboratory, a 20 mm thick soil sample is consolidated 50% in 15 minutes with double drainage. In how much time a 5 m thick layer of the same soil in the field will consolidate 50%. 6M 4 L4

UNIT-V

10. a) Discuss merits and demerits of tri-axial test over direct shear test. 6M 5 L2
- b) A specimen of sandy clay failed at a stress of 250 kN/m² in unconfined compression test. The failure plane was observed to make an angle of 30°. Determine the shear parameters of soil. 6M 5 L4

OR

11. a) Explain the types of shear test based on drainage condition. 6M 5 L2
- b) The following observations were made on a soil sample in triaxial test. Determine the shear parameters. 6M 5 L3

	Cell pressure (kN/m ²)	Deviator stress (kN/m ²)
Sample 1	80	160
Sample 2	142	224

*** End ***

Hall Ticket Number :										
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R-20

Code: 20A161T

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

Transportation Engineering
(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

- 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 <i>all</i> the following short answer questions (5 X 2 = 10M) | CO | BL |
| a) List the ideal requirements of an alignment. | CO1 | L2 |
| b) Define the term conflict, how number of conflict points are available for three-legged intersection. | CO2 | L2 |
| c) What is the objective and scope of traffic engineering | CO2 | L2 |
| d) List the grades of bitumen. | CO4 | L2 |
| e) Explain the concept of equivalent single wheel load? | 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) Briefly explain the engineering surveys and drawings needed for locating a new highway. | 6M | CO1 | L2 |
| b) Explain how final location and detailed survey of a highway are carried out. | 6M | CO1 | L2 |

OR

- | | | | |
|---|----|-----|----|
| 3. a) Determine the length of different categories of roads in a state in India by the year 2001, using the Third Road development formula and the following data:
Total area of the state = 80,000 sq.km.
Total number of towns as per 1981 census = 86
Overall road density aimed at = 82 km per 100 sq. km. | 6M | CO1 | L3 |
| b) What are the significant recommendations of Jayakar Committee Report? Mention how this helped in road development in India? | 6M | CO1 | L2 |

UNIT-II

- | | | | |
|---|----|-----|----|
| 4. a) Explain the role of pavement surface characteristics in highway geometric design. State the factors affecting friction between pavements and tyres of vehicles | 6M | CO2 | L2 |
| b) A Horizontal curve of radius 320m shall be designed with a design speed of 70kmph on a level terrain. The width of the road is 7.0 m and super elevation to be provided by rotating the pavement with respect to the inner edge. The rate of introduction of super elevation is 1 in 150. If the maximum wheel base of a vehicle is 6.2m calculate the length of transition curve required | 6M | CO2 | L4 |

OR

- | | | | |
|--|----|-----|----|
| 5. a) The speeds of overtaking and overtaken vehicle are 80 and 60 kmph respectively. The acceleration of the overtaking vehicle is 2.5kmph per second, calculate the safe passing sight distance for (i) one-way traffic; (ii) two-way traffic. | 6M | CO2 | L3 |
|--|----|-----|----|

- b) A valley curve is formed by a descending gradient of 1 in 25 meeting an ascending grade of 1 in 30. Design the length of valley curve to fulfill both comfort condition and head light sight distance requirements for a design speed of 80Kmph. Assume allowable rate of change of centrifugal acceleration $C = 0.6 \text{ m /sec}^3$

6M CO2 L4

UNIT-III

6. a) Explain with neat sketches the grade separated intersections, the advantageous and limitations.
b) Analyze the causes and preventive measures of road accidents.

6M CO3 L2

6M CO3 L3

OR

7. a) Explain the conditions when traffic rotary is justified with reference to Indian conditions. Discuss the advantageous for rotary system.
b) From an in-out survey consisting of 50 bays, the initial count was 18. The number of vehicles coming in and out of the parking lot for a time interval of 5 minutes is shown below. Find the accumulation, total parking load, average occupancy, and efficiency of parking lot.

Time	5	10	15	20	25	30
IN	7	6	3	3	7	4
OUT	2	4	5	2	8	3

4M CO3 L4

UNIT-IV

8. a) Explain the significance and importance of aggregate physical properties in mix design of bituminous concrete
b) Explain which tests should an engineer conduct to determine the suitability of VG-40 and VG-10 asphalt paving grade binders considering temperature and oxidation conditions?

6M CO4 L2

6M CO4 L2

OR

9. a) Given the following measurements on a sample of fine aggregate, calculate the bulk dry, bulk SSD and apparent specific gravities:
Aggregate saturated surface dry (SSD) weight = 459.34g
Weight of pycnometer and water = 2345.67 g
Weight of pycnometer, water and sample = 2640.35 g
Aggregate weight after being dried in oven = 454.12g
b) Describe the procedure for conducting absolute and kinematic viscosity tests for grading paving binders according to IS: 73-2016.

6M CO4 L3

6M CO4 L2

UNIT-V

10. a) Discuss the factors affecting pavement design
b) A concrete slab 7.5 m long, 3.5 m wide and 200 mm thick, is subjected to a temperature differential of $11.1 \text{ }^\circ\text{C}$. Assuming that $k = 45.0 \text{ MN/m}^3$ and a $t = 9 \times 10^{-6} /^\circ\text{C}$. Determine the maximum curling stress in the interior, edge and corner of the slab. Take the radius of contact as 150 mm.

6M CO5 L2

6M CO5 L4

OR

11. a) Bring out the design steps of flexible pavement using CBR method of IRC approach
b) A concrete slab subjected to a corner loading, given $k = 27.2 \text{ MN/m}^3$, $h = 254 \text{ mm}$, $a = 152 \text{ mm}$, and $P = 44.5 \text{ kN}$, determine the maximum stress and deflection due to corner loading.

6M CO5 L2

6M CO5 L3

*** End ***

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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

- 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

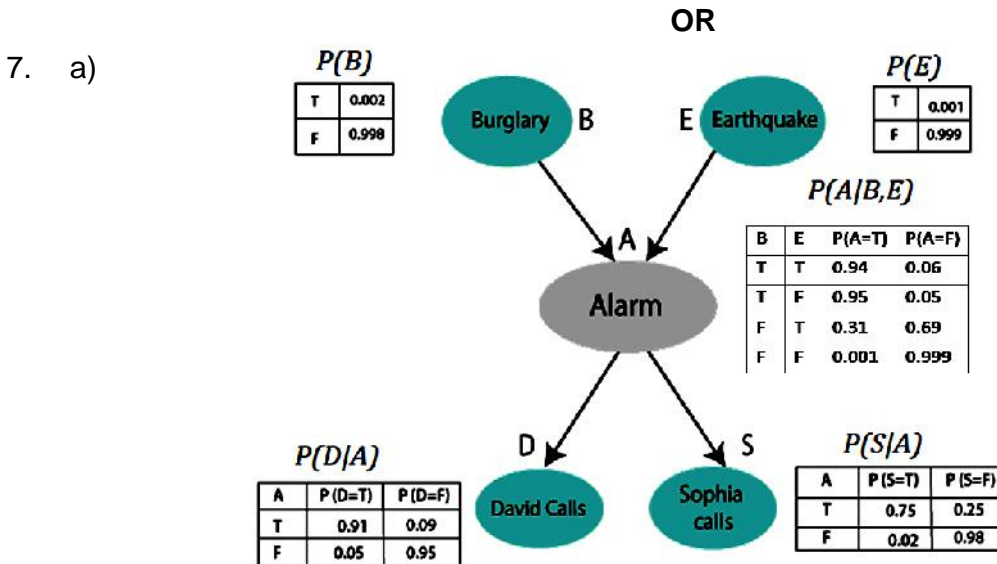
12M CO2 L3

UNIT-III

6. a) Apply Bayes theorem to find Maximally A Posteriori hypothesis from hypotheses space.
 b) Describe the Minimum Description Length principle.

6M CO3 L3

6M CO3 L2



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.
 b) Summarize the PROLOG-EBG properties.

6M CO4 L2

6M CO4 L2

OR

9. a) Explain the first order inductive learning rule.
 b) Discuss the inverted resolution rule learning.

6M CO4 L2

6M CO4 L2

UNIT-V

10. a) Illustrate the markov-decision process in learning the environment.
 b) Differentiate the inductive and analytical learning.

6M CO5 L2

6M CO5 L2

OR

11. a) Summarize the components and its features of reinforcement learning.
 b) How does the knowledge used to alter the search objective?

6M CO5 L2

6M CO5 L2

*** End ***

Hall Ticket Number :										
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R-20

Code: 20A16CT

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

Advanced Environmental Engineering

(Civil Engineering)

Max. Marks: 70

Time: 3 Hours

- 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) What is the necessity of Neutralization in Industrial waste treatment? | 1 | L1 |
| b) Name the gases present in air. | 2 | L1 |
| c) Define the term composting. | 3 | L1 |
| d) What is special waste? | 4 | L1 |
| e) Define the term Noise Pollution | 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) Describe the qualities of industrial wastewater. | 6M | 1 | L2 |
| b) Explain the importance of neutralization and equalization in industrial waste water treatment | 6M | 1 | L2 |

OR

- | | | | |
|--|----|---|----|
| 3. a) Explain methods of the volume reduction in industrial wastewater | 6M | 1 | L2 |
| b) Write a brief note on Nitrification- Denitrification process | 6M | 1 | L1 |

UNIT-II

- | | | | |
|---|----|---|----|
| 4. a) Explain the various sources and classification of air pollution | 6M | 2 | L2 |
| b) Discuss in brief about global effects of air pollution | 6M | 2 | L2 |

OR

- | | | | |
|---|----|---|----|
| 5. a) Give an explanation of air emission standards. | 6M | 2 | L2 |
| b) Explain the general methods of controlling gaseous emission. | 6M | 2 | L2 |

UNIT-III

6. a) Explain the various sources of solid waste 6M 3 L2
 b) Describe about Reduce, Reuse and recycling of solid waste with an example. 6M 3 L2

OR

7. a) Explain the various methods of solid waste collection 6M 3 L2
 b) Explain the land filling technique for the disposal of solid waste with neat sketch. 6M 3 L2

UNIT-IV

8. a) Explain the characteristics of hazardous waste 6M 4 L2
 b) Write a note biomedical waste 6M 4 L1

OR

9. a) Explain the various sources of e-waste 6M 4 L2
 b) Discuss in brief about recycling and treatment of plastic waste 6M 4 L2

UNIT-V

10. a) Explain the various impacts of noise pollution on human beings 6M 5 L2
 b) Describe the significance of environmental audit- ISO-14000 6M 5 L2

OR

11. a) Explain the control measures of noise pollution 6M 5 L2
 b) Explain the salient features of water act. 6M 5 L2

*** End ***