IV B.Tech. II Semester Regular Examinations March 2019

Supply Chain Management

(Mechanical Engineering)

Max. Marks: 70   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Discuss different drivers and its impact on the performance of supply chain.   7M
   b) "Supply chain design, planning and operation decisions play a significant role in the success or failure of a firm". Comment.   7M

OR

2. a) Explain push/pull view of the processes within a supply chain and illustrate with an example.   7M
   b) State the procedure for designing the supply chain network. Mention the factors influencing the network designing?   7M

UNIT–II

3. a) State the factors that influence the capacity allocation in a plant with suitable examples.   7M
   b) Discuss the impact of supply uncertainty on safety inventory.   7M

OR

4. a) Describe any two models for capacity allocation with examples.   7M
   b) Elucidate the parameters required to choose optimal amount of cycle inventory in a supply chain.   7M

UNIT–III

5. Compare and contrast issues involved in vehicle routing in the following applications:
   i.   Milk collection for a dairy cooperative
   ii. Courier company
   iii. Product delivery to retailers by soft drink company   14M

OR

6. Describe different modes of transportation in a supply chain. Give their comparison.   14M

UNIT–IV

7. a) Elucidate the managerial actions that increase total supply chain profits and moderate the bull whip effect.   7M
   b) Mention the issues considered when designing supply chain relationships to improve the chances of developing coordination.   7M

OR

8. Define bull whip effect with a neat sketch. Discuss the behavioral and non behavioral causes of bull whip effect.   14M

UNIT–V

9. a) Discuss the role that information technology can play in enabling supply chain management.   7M
   b) Identify a few examples of when the availability of real time information has been used to improve supply chain performance.   7M

OR

10. a) Explain the role of SRM, Internal SCM and CRM in managing the flow of information, product and funds.   7M
    b) Discuss how technology platform shifts have made supply chain IT systems more effective.   7M

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Code: **5G68A**

IV B.Tech. II Semester Regular Examinations March 2019
Disaster Management
(Common to All Branches)

Max. Marks: 70   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Discuss about the statement 'Disasters occurs when Hazard meets the Vulnerability' with the help of any flow chart.   10M
   b) Differentiate the terms 'prevention' and 'mitigation' giving suitable examples.   4M

OR

2. a) Define the terminology 'Disaster, Hazard and Risk', differentiate them and relate them.   10M
   b) Define Impact and give classification.   4M

UNIT–II

3. a) Describe the earthquake about its characteristics and principle mechanism.   6M
   b) Write about the types of floods.   5M
   c) Differentiate manmade disasters vs natural disasters.   3M

OR

4. a) Discuss in detail about the vulnerable profile of India.   5M
   b) Write about the Nuclear Hazards in India.   4M
   c) Write about the ecological fragility of major rivers in India.   5M

UNIT–III

5. a) Discuss the environmental, physical, social, economical impacts due to earthquake and tsunami taking suitable examples.   10M
   b) Enlist the causes of urban disasters taking an example of any city in India.   4M

OR

6. a) Discuss the environmental, health, psycho-social impacts due to nuclear radiation and volcanoes taking suitable examples.   10M
   b) Discuss the global disaster trends of earthquakes and tsunamis.   4M

UNIT–IV

7. a) Discuss about the early warning systems available in India to avoid major loss due to tsunamis.   6M
   b) Explain the importance of Community Based Participation towards achieving DRR.   5M
   c) Write the policies available in India for DRR.   3M

OR

8. a) Draw the 'Disaster management' cycle and explain any two phases in detail.   6M
   b) Differentiate structural and non-structural measures in DRR.   4M
   c) Discuss the roles of NDMA.   4M

UNIT–V

9. a) Enlist the positive impacts on upstream side and downstream side of a dam.   5M
   b) Discuss some of the impacts on surrounding areas due to mining.   5M
   c) Enlist the recovery and reconstruction activities required after earthquake.   4M

OR

10. a) Discuss the causes of urbanization and impacts on the existing urban area.   8M
    b) Discuss any one developmental project that you like mentioning the causes of it and its immediate and long term impacts.   6M

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IV B.Tech. II Semester Regular Examinations March 2019
Human Resource Management
(Common to All Branches)

Max. Marks: 70   Time: 3 Hours
Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)
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UNIT–I

1. What is meant by HRM? Discuss the functions of human Resource Management with relevant examples?

OR

2. Define Human Resource Management and discuss the difference between Personnel Management and HRM.

UNIT–II

3. How does the HR planning process facilitate the achievement of an organization's strategic objectives

OR

4. What is Job Analysis? Explain the job design methods in detail?

UNIT–III

5. What are various sources of applicants that organizations use when recruiting?

OR

6. What is selection? Explain different types of selection tests and process of selection

UNIT–IV

7. Discuss the different methods of training used by an organization for enhancing employee performance

OR

8. Explain the objectives, importance and factors influencing executive development

UNIT–V

9. Should effective Grievance Handling Procedure retains a potential employee in an organization – explain.

OR

10. Suppose you are a supervisor. Evaluate the different performance appraisal methods used in your organization?

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R-15

Code: 5G583

IV B.Tech. II Semester Regular Examinations March 2019

Non Conventional Sources of Energy

(Mechanical Engineering)

Max. Marks: 70   Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. With the aid of neat sketches explain the working of
    i) Pyrheliometer and, ii) Pyranometer.   14M

OR

2. a) Define Solar constant. What are the reasons for variation of solar radiation reaching the earth than received at the outside of earth's atmosphere?   8M

    b) Explain the principle of conversion of solar energy in to heat.   6M

UNIT–II

3. a) What are the advantages and disadvantages of concentrating collectors over Flat - plate collectors?   7M

    b) Explain the different methods of sensible heat storage systems.   7M

OR

4. With the aid of a neat sketch explain function and materials used for all the main components of a flat plate solar collector.   14M

UNIT–III

5. Derive an expression for the maximum power that can be developed due to wind.   14M

OR

6. a) What are the advantages and disadvantages of a floating Drum bio gas plant?   6M

    b) What is a community biogas plant? What are the main problems encountered in its operation?   8M

UNIT–IV

7. a) With the aid of neat sketches explain the working of any two types of wave energy conversion systems.   10M

    b) What are the advantages and limitations of mini hydel power generation?   4M

OR

8. Explain the closed system OTEC power plant, with its advantages over open cycle system.   14M

UNIT–V

9. Draw a configuration of closed cycle MHD generator and explain its working. Discuss its merits and demerits with open cycle system.   14M

OR

10. a) What is the difference between a fuel cell and a battery?   2M

    b) With the aid of a neat sketch explain the working of a H_2-O_2 Fuel cell.   12M

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Code: 5G584

R-15

IV B.Tech. II Semester Regular Examinations March 2019
Power Plant Engineering
(Mechanical Engineering)

Max. Marks: 70   Time: 3 Hours
Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)
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UNIT–I

1. Elaborate the improvements obtained in Development of power in India.   14M

OR

2. Draw the layout of a modern steam power plant. Explain its circuits in detail.   14M

UNIT–II

3. a) Illustrate the following by listing out its advantages and disadvantages.
   (i) Spreader Stoker   (ii) Retort Stoker   8M
   b) With a neat sketch explain the working procedure of a cyclone furnace.   6M

OR

4. a) Classify the types of Dust Collectors.   4M
   b) Explain how electrostatic precipitator works with neat sketch. List out its advantages and disadvantages.   10M

UNIT–III

5. a) List out the factors to be considered for selecting site for diesel power plant, types of diesel power plants and its applications.   10M
   b) What is meant by supercharging? What are its advantages?   4M

OR

6. a) Explain the working process of a combined cycle power plant with neat sketch. Compare it with open and closed cycle gas turbine power plants.   8M
   b) Explain any one of the lubrication and cooling systems in Diesel Engine Power plant.   6M

UNIT–IV

7. Draw and explain the layout of Hydro Electric Power Plant in detail.   14M

OR

8. a) Explain the working process of the following with neat sketches. List out its Advantages and Disadvantages.
   (i) Liquid metal cooling reactor. (ii) Boiling water Reactor   10M
   b) How radioactive waste is disposed?   4M

UNIT–V

9. a) What is a tidal energy? Explain its working with a schematic diagram.   7M
   b) Explain the working of horizontal axis wind turbines with neat sketch.   7M

OR

10. A power station has to supply load as follows

Time (hours)	0-6	6-12	12-14	14-18	18-24
Load (MW)	45	135	90	150	75

(i) Draw Load Curve   (ii) Draw Load Duration Curve   (iv) Calculate load factor
(iii) Choose suitable generating units to supply the load (v)Calculate plant capacity   14M