CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Supplementary Examinations April/May-2023
Course Name: FUNDAMENTALS OF MANUFACTURING PROCESS
(Civil Engineering)

Date: 29.04.2023 FN   Time: 3 hours   Max.Marks: 70

(Note: Assume suitable data if necessary)
PART-A
Answer all TEN questions (Compulsory)
Each question carries TWO marks.   10x2=20M

1.	State the difference between pattern and casting.	2 M
2.	Mention the advantages of centrifugal casting process.	2 M
3.	Write the difference between DC and AC arc welding.	2 M
4.	List any three advantages of gas welding over arc welding.	2 M
5.	Specify the merits of cold working over hot working.	2 M
6.	Differentiate blanking and piercing.	2 M
7.	State the principle of extrusion.	2 M
8.	Write the advantages of extrusion process.	2 M
9.	Define the smith forging defects.	2 M
10.	List the forging defects.	2 M

PART-B
Answer the following. Each question carries TEN Marks.   5x10=50M

11.A). Describe the process of centrifugal casting with neat sketch and alsostate its advantages.   10M

OR

11. B). i) State the purpose of riser in sand casting? Explain the principles ofdesign of risers.   5M
ii) List the advantages, limitation and applications of investmentcasting.   5M

12. A). Illustrate the working principle of oxy acetylene welding processwith neat sketch and also state its advantages.   10M

OR

12. B). With sketch, explain the laser beam welding process. Mention advantages and limitation of laser welding also give applications.   10M

13. A). Discuss recovery, recrystallisation and grain growth.   10M

OR

13. B). Write a shot notes on:
i) Wire drawing   5M
ii) Tube drawing.   5M

(P.T.O..)

14. A). Write a note on impact extrusion and list the advantages of impact extrusion over other extrusion processes.　　10M

OR

14. B). With a neat sketch, explain tube extrusion and hydrostatic extrusion.　　10M

15. A). List out the different forging operations. Explain two forging operations with neat sketch.　　10M

OR

15. B). Discuss various forging defects with cause and remedies.　　10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Supplementary Examinations April/May-2023
Course Name: WATERSHED MANAGEMENT
(Civil Engineering)

Date: 02.05.2023 FN   Time: 3 hours   Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A
Answer all TEN questions (Compulsory)
Each question carries TWO marks.   10x2=20M

1.	List out the principles of watershed management.	2 M
2.	What is watershed slope?	2 M
3.	What are the factors affecting soil erosion?	2 M
4.	Write down formula of universal soil loss equation.	2 M
5.	What are the benefits of rain water harvesting?	2 M
6.	What are the various components of farm pond?	2 M
7.	What are the effects of erosion on land fertility and land capability?	2 M
8.	List out the different objectives of land capability classification.	2 M
9.	What is the role of ecosystem?	2 M
10.	What is soil enrichment in in an eco-system management?	2 M

PART-B
Answer the following. Each question carries TEN Marks.   5x10=50M

11.A). List out the various characteristics of a watershed? Explain about the hydrology and socio-economic characteristics of watershed.   10M

OR

11. B). Explain the necessity of watershed management in India and write down the principles of watershed management.   10M

12. A). Explain the various measures to control soil erosion in a watershed.   10M

OR

12. B). Explain the different types of soil erosion in a watershed.   10M

13. A). Explain water harvesting with respect to check dam, farm ponds and percolation tanks.   10M

OR

13. B). Describe the role of artificial recharge and soil moisture conservation in rain water harvesting.   10M

14. A). Explain land use and land capability classification.   10M

OR

14. B). Explain reclamation procedure for alkaline and salt affected soils.   10M

15. A). Explain the horticulture and bio-mass management in an eco-system management.   10M

OR

15. B). Explain the dry land agriculture, crop husbandry and social forestry in an eco-system management.   10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Supplementary Examinations April/May-2023
Course Name: CONSTRUCTION TECHNOLOGY & PROJECT MANAGEMENT
(Civil Engineering)

Date: 04.05.2023 FN	Time: 3 hours	Max.Marks: 70

(Note: Assume suitable data if necessary)

PART-A
Answer all TEN questions (Compulsory)
Each question carries TWO marks.   10x2=20M

1.	Outline the types of Construction.	2 M
2.	Summarize objectives of Construction Management.	2 M
3.	Define the term "Construction Dispute".	2 M
4.	Define bar chart and milestone chart.	2 M
5.	What are the steps involved in Planning Resources?	2 M
6.	List out budgetary control methods.	2 M
7.	Outline the conditions of Contract of Construction work.	2 M
8.	Define Tender and Tender forms.	2 M
9.	Summarize the human safety factors in Construction.	2 M
10.	Demonstrate in short the Security Deposit.	2 M

PART-B
Answer the following. Each question carries TEN Marks.   5x10=50M

11.A).	Classify the types of Organizations in detail. Explain briefly each type.	10M
	OR	
11. B).	Explain in detail about objectives of human resource management.	10M
12. A).	Compare the Network methods PERT and CPM.	10M
	OR	
12. B).	Construct in detail various stages of Construction and list the works to be carried in the respective stages of Construction.	10M
13. A).	Construct with sketch, a Labour Schedule showing Manpower and Time	10M
	OR	
13. B).	Develop notes on material, labour and equipment schedule for the construction of a Wall assuming suitable requirements of materials, labour and equipment etc.	10M
14. A).	List & summarize important conditions of Contract	10M
	OR	
14. B).	Explain in detail about Contract Document and Specifications.	10M
15. A).	Explain in detail about workmen's compensation act.	10M
	OR	
15. B).	Explain Significance of Safety and Quality in Construction work.	10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Supplementary Examinations April/May-2023
Course Name: TRANSPORTATION ENGINEERING-II
(Civil Engineering)

Date: 06.05.2023 FN　　　　　　 Time: 3 hours　　　　　　　 Max.Marks: 70

(Note: Assume suitable data if necessary)
PART-A
Answer all TEN questions (Compulsory)
Each question carries TWO marks.　　　　　　　　　　 10x2=20M

1.	Define wheel gauge. What are the various gauges used in India?	2 M
2.	What are the functions of sleepers in a railway track?	2 M
3.	What are check rails on curves?	2 M
4.	What are the limitations of cant deficiency?	2 M
5.	What is the purpose of Wind rose diagram?	2 M
6.	Explain about the turning radius of an aircraft.	2 M
7.	What is the purpose of dolphins in harbour?	2 M
8.	Distinguish between quays and jetties.	2 M
9.	What are purpose of Intelligent Transport Systems?	2 M
10.	List out the different type of IPT Vehicles in India.	2 M

PART-B
Answer the following. Each question carries TEN Marks.　　　　　 5x10=50M

11.A).	What is permanent way? Explain functions of various components briefly.	10M
	OR	
11. B).	What is Ballast? What are the different types and enumerate the requirements of Good ballast?	10M
12. A).	What are the different components of a stop signal? Explain with the help of a neat diagram.	10M
	OR	
12. B).	What is meant by crossing? Discuss the various types of crossings.	10M
13. A).	Explain the requirements of ideal taxi way layout in detail.	10M
	OR	
13. B).	Write in detail about various airport markings with neat sketches.	10M
14. A).	What are the different types of break waters? Explain any two.	10M
	OR	
14. B).	How are the harbours classified? What is the difference between a Port and a harbour?	10M
15. A).	Explain in detail about the ITS Technologies.	10M
	OR	
15. B).	Write about the Automatic Vehicle Identification System.	10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Supplementary Examinations April/May-2023
Course Name: PYTHON PROGRAMMING
(Common for all Branches)

Date: 08.05.2023 FN   Time: 3 hours   Max.Marks: 70

(Note: Assume suitable data if necessary)
PART-A
Answer all TEN questions (Compulsory)
Each question carries TWO marks.   10x2=20M

1. List the basic data types available in Python with examples.   2 M
2. Mention any two limitations of Python.   2 M
3. Define recursion with an example.   2 M
4. Compare lists and array.   2 M
5. How will you update list items? Give one example.   2 M
6. Can functions return tuples? If yes give example.   2 M
7. What are instance variables, and what role does the name self play in the context of a class definition?   2 M
8. Explain what the __str__ method does and why it is a useful method to include in a class   2 M
9. Why does the blur function need to work with a copy of the original image?   2 M
10. What happens when you enter a number with a decimal point into an Integer Field?   2 M

PART-B
Answer the following. Each question carries TEN Marks.   5x10=50M

11.A). Write about different types of python operators with example scripts.   10M

OR

11. B). Sketch the structures of interpreter and complier. Details the difference between them. Explain how python works in Interactive mode and script mode with examples.   10M

12. A). Write a program to determine the factorial of a given number with and without the use of recursion.   10M

OR

12. B). Write the syntax and explain the concept of   10M
   (i)   recursive function with an example.
   (ii) lambda function with an example.

13. A). Write a function that takes a number as an input parameter and returns the corresponding text in words, for example, on input 452, the function should return 'Four Five Two'. Use a dictionary for mapping digits to their string representation.   10M

OR

13. B). Describe the following: 10M
   (i) Creating the list
   (ii) Accessing values in the lists
   (iii) Updating the list
   (iv) Deleting the list elements.

(P.T.O..)

14. A).   i) Write a short notes on Special Class methods, with the help of an example explain the significance of the _init_() method.   5M

         ii) Write a short notes on different built in attributes associated with a class.   5M

OR

14. B).   Write a menu driven program that keeps record of books and journals available in a library.   10M

15. A).   Write a line of code that adds a Float Field to a window, at position (1, 1) in the grid, with an initial value of 0.0, a width of 15, and a precision of 2.   10M

OR

15. B).   Explain the turtle graphics with two dimensional shapes.   10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Supplementary Examinations April/May-2023
Course Name: FUNDAMENTALS OF ENGINEERING MATERIALS
(Civil Engineering)

Date: 08.05.2023 FN   Time: 3 hours   Max.Marks: 70

(Note: Assume suitable data if necessary)
PART-A
Answer all TEN questions (Compulsory)
Each question carries TWO marks.   10x2=20M

1. Define miller's indices.   2 M
2. List different types of solid solutions.   2 M
3. Explain Lever rule with an example.   2 M
4. Differentiate between peritectoid and Eutectoid.   2 M
5. Distinguish between hardness and hardenability.   2 M
6. What is tempering? List the classification of various tempering process.   2 M
7. Why is it easier to control the properties of cast irons as compared to steels? 2 M
8. Write any four nonferrous metals.   2 M
9. List the various types of ceramic materials.   2 M
10. Differentiate between crystallized ceramics and cermets.   2 M

PART-B
Answer the following. Each question carries TEN Marks.   5x10=50M

11.A). i) State Hume-Roothery's rules for the formation of substitutional solid solutions   5M
        ii) Differential between metal and alloy.   5M

OR

11. B). i) What is the necessity of Alloying?   3M
        ii) Distinguish between Intermetallic compound and Electron compound.   3M
        iii) Differentiate between grain and atom.   4M

12. A). Draw a neat labeled Iron-Iron Carbide diagram and explain eutectic and eutectoid reaction in it.   10M

OR

12. B). Explain eutectic, peritectic, eutectoid and peritectoid reactions with examples.   10M

13. A). i) Explain the effects of ferrite stabilizers and austenite stabilizers on Fe-Fe3C phase diagram.   5M
        ii) What is quench severity? Explain its role on hardenings of steels   5M

OR

13. B). Explain how a TTT diagrams is constructed? Draw a TTT diagram for 0.4%C steel and identify the microstructural phases.   10M

(P.T.O..)

14. A). Describe the composition, heat treatment and applications of the following metals: 10M
    i) copper and its Alloys
    ii) Titanium and its alloys

OR

14. B). i) Gray cast Iron is brittle, in spite of having soft phase (i.e.) Ferrite and graphite in its   5M
micro structure, Explain with suitable reason.
    ii) Differentiate between white cast iron and malleable cast iron.   5M

15. A). i) Define ceramic material. Describe two methods for preparing ceramic raw materials for   7M
processing.
    ii) What are advanced ceramics?   3M

OR

15. B). Write short notes on: 10M
    i) Metal Matrix composites.
    ii) Fiber reinforced composites.

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