CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Regular/Supplementary Examinations December-2022
Course Name: FUNDAMENTALS OF MANUFACTURING PROCESS
(Civil Engineering)

Date: 08.12.2022 AN   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.	Write the advantages of casting process and mention its applications.	2 M
2.	List out any four types of patterns.	2 M
3.	Explain various welding positions.	2 M
4.	Write any two differences between soldering and Brazing.	2 M
5.	Define hot working.	2 M
6.	Explain the Recrystallization and grain growth rate on forming.	2 M
7.	Explain the role of lubricant in extrusion.	2 M
8.	Write any two differences between forward and Backward extrusion process.	2 M
9.	List out the common forging defects.	2 M
10.	Write short note on forging die design.	2 M

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

11.A).	Explain the principle of investment casting with necessary sketches.	10M
	OR	
11. B).	List out the defects in casting process. Explain any five with neatsketch.	10M
12. A).	Discuss various welding defects with cause and remedies.	10M
	OR	
12. B).	i) Write the differences between TIG and MIG welding processes.	5M
	ii) Write a short note on laser beam welding, detailing theapplications.	5M
13. A).	Discuss the main characteristics of hot working as compared withcold working process.	10M
	OR	
13. B).	Illustrate wire drawing and Tube drawing.	10M
14. A).	Explain forward extrusion and backward extrusion with neatsketches.	10M
	OR	
14. B).	Briefly explain hydrostatic extrusion process with neat sketch. Whatare the advantages and limitations of extrusion process?	10M
15. A).	Discuss smith forging, drop forging and roll forging.	10M
	OR	
15. B).	Sketch and explain forging hammers. What are the advantages ofcold forging?	10M

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H.T No: [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]   **R18**   Course Code: A30148

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Regular/Supplementary Examinations December-2022
Course Name: WATERSHED MANAGEMENT
(Civil Engineering)

Date: 10.12.2022 AN   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.	What is the function of a watershed?	2 M
2.	Why hydrology is important?	2 M
3.	Explain the effect of soil erosion.	2 M
4.	List out the different types of erosion.	2 M
5.	Differentiate dam and check dam.	2 M
6.	What is meant by soil moisture?	2 M
7.	Differentiate land and land use.	2 M
8.	Where are the saline soils widely spread?	2 M
9.	What is silvipasture?	2 M
10.	What are the main components of ecosystem?	2 M

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

11.A). i) Explain in detail the importance of watershed management in India.   5M
ii) Explain any three characteristics of watershed with diagrams.   5M

OR

11. B). Define watershed development programme. Also explain how integrated and multi-disciplinary approach will help watershed management   10M

12. A). Discuss in detail about contour techniques and rock fill dams erosion control methods   10M

OR

12. B). i) Explain about estimation of soil loss due to erosion and universal soil loss equation.   3M
ii) explain the factors affecting soil erosion and effect of erosion on land fertility and land capability.   7M

13. A). Demonstrate in detail the methods used for artificial recharge.   10M

OR

13. B). i) What is a watershed action plan and why should we develop a watershed plan.   5M
ii) Describe the role of check dam, farm ponds and percolation tanks in rain water harvesting.   5M

(P.T.O..)

14. A). Define land capability. Explain classification of land under several categories and their purpose.   10M

OR

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

15. A). Give a brief explanation on social forestry and afforestation.   10M

OR

15. B). i) What do you understand by cropping pattern? Explain double cropping and mono cropping.   5M

ii) What is crop husbandry? Discuss the components.   5M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Regular/Supplementary Examinations December-2022
Course Name: CONSTRUCTION TECHNOLOGY & PROJECT MANAGEMENT
(Civil Engineering)

Date: 13.12.2022 AN   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
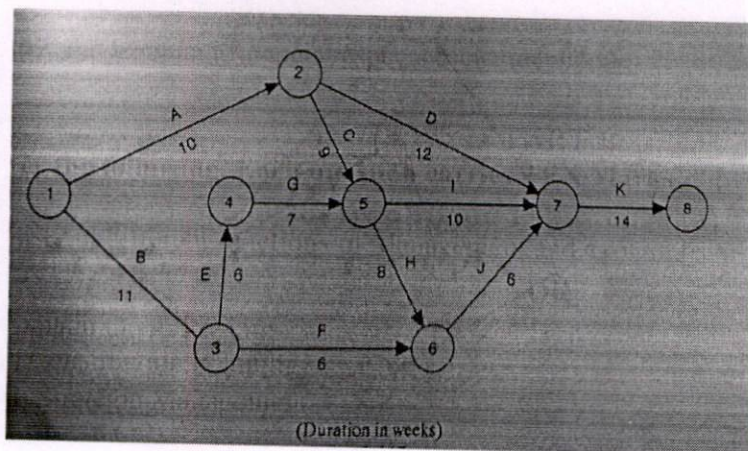
1. Summarize the resources for Construction Industry.   2 M
2. Explain briefly the Construction Management team.   2 M
3. Differentiate between Bar chart and Gantt chart.   2 M
4. Define direct cost and indirect cost.   2 M
5. List out different forms of Scheduling.   2 M
6. Outline the steps involved in planning of man power.   2 M
7. Define Tender notice.   2 M
8. Explain in short about E-tender.   2 M
9. Summarize the Laws related to Wages.   2 M
10. Identify the legal and financial aspects of accidents.   2 M

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

11.A). List out different functions of Management and explain briefly.   10M

OR

11. B). Explain the following:
i) Construction Planning
ii) Strategic Management   5M
   5M

12. A). Develop the critical path in the network shown in figure below and calculate the earliest   10M
project completion time, assuming that the project starts at zero time and also find out the
EST, EFT, LFT, LST and Total float.

(Duration in weeks)

OR

12. B). Explain Scheduling by Bar Chart and the limitations of Bar Charts.   10M

13. A). Explain in detail the Planning of Manpower, Materials and Equipment.   10M

OR

13. B). Classify different types of budgetary control methods and explain briefly.   10M

14. A). Illustrate in detail M book and Muster Roll.   10M

OR

14. B). Classify and summarize various types of Construction Contracts.   10M

15. A). Explain briefly about workmen's compensation act.   10M

OR

15. B). Write about the safety measures in construction industry and list the legal and financial aspects in construction.   10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Regular/Supplementary Examinations December-2022
Course Name: TRANSPORTATION ENGINEERING-II
(Civil Engineering)

Date: 15.12.2022 AN	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.	Draw a neat sketch of Permanent Way.	2 M
2.	What is coning of wheels? What is its purpose?	2 M
3.	What are the objectives of providing super elevation on railway tracks?	2 M
4.	What is can't and can't deficiency.	2 M
5.	List the factors responsible for selection of Airport site.	2 M
6.	What do you understand by the term taxiway design?	2 M
7.	What are the requirements of harbours?	2 M
8.	How are ports classified into?	2 M
9.	What are Intelligent Transport Systems?	2 M
10.	Write down the uses of ITS in India?	2 M

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

11.A).	What are Sleepers? List out the different types of sleepers and explain the advantages and disadvantages of Concrete sleepers?	10M

OR

11. B).	What are the different causes of creep? How do you identify creep in the field?	10M

12. A).	What is crossing and discuss briefly about requirement of good crossing and types of crossing?	10M

OR

12. B).	What essential purposes are served by Signaling and Interlocking? What do you understand by route relay interlocking?	10M

13. A).	What are the basic assumptions made in finalizing runway length? Explain.	10M

OR

13. B).	Draw a neat sketch to show how lighting is done on a runway. What are the advantages of narrow gauge of lighting pattern?	10M

14. A).	What are the uses of dry and wet docks? What is the role of ware houses?	10M

OR

14. B).	List the navigational aids and explain their importance.	10M

15. A).	Briefly explain the advanced Traffic Management System.	10M

OR

15. B).	Briefly explain the Applications of ITS in different countries.	10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Regular/Supplementary Examinations December-2022
Course Name: PYTHON PROGRAMMING
(Common for CIVIL, EEE, MECH, ECE & CSE)

Date: 17.12.2022 AN   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.	What is indentation?	2 M
2.	What operators does python support?	2 M
3.	What is Chained Conditional statement? Give Example.	2 M
4.	Point out the difference between recursive and iterative technique.	2 M
5.	Describe List Slicing with example.	2 M
6.	How a tuple is iterated? Explain with an example?	2 M
7.	How can you copy an object in Python? Illustrate with an example?	2 M
8.	How will you check if a class is a child of another class?	2 M
9.	Compare Terminal-based user interfaces and GUIs.	2 M
10.	How to create Label Widget in Python?	2 M

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

11.A). Summarize various operators, built-in functions and standard library modules that deals with Python's numeric type.   10M

OR

11. B). What is the purpose of else clause for a loop? Explain how else works with while and for loops, with examples.   10M

12. A). Explain about different types of arguments in Python. Write a function to generate cubes of numbers over time.   10M

OR

12. B). Explain the file built-in functions and methods with clear syntax, description and illustration.   10M

13. A). i) Demonstrate how to create and print a 3-dimensional matrix with lists.   5M
ii) Write a Python program that counts the number of occurrences of a letter in a string, using dictionaries.   5M

OR

13. B). Give a comparison between lists, tuples, dictionaries and sets.   10M

14. A). Explain how to implement different types of inheritance in Python with example.　　10M

OR

14. B). Describe how the arithmetic operators can be overloaded to work with a new class of numbers.　　10M

15. A). Develop a Python program that creates a GUI with a textbox, Ok button and Quit button. On clicking Ok, the text entered in textbox is to be printed in Python shell; on clicking Quit, the program should terminate.　　10M

OR

15. B). Explain the Turtle Graphics Basic commands and drawing different shapes on screen with example.　　10M

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CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
B.Tech VII Semester Regular/Supplementary Examinations December-2022
Course Name: FUNDAMENTALS OF ENGINEERING MATERIALS
(Civil Engineering)

Date: 17.12.2022 AN   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 grain and grain boundary.	2 M
2.	What is solid solution?	2 M
3.	What is the name of the reaction that yields two solid phases from one liquid phase during phase transformation?	2 M
4.	What information does lever rule give?	2 M
5.	What is the difference between steel and cast iron?	2 M
6.	What is the difference between hardness and hardenability?	2 M
7.	What are the specialties of titanium over steel?	2 M
8.	What is the difference between brass and bronze?	2 M
9.	What are different types of glasses?	2 M
10.	What are the advantages of composite material?	2 M

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

11.A). Calculate the atomic packing factor of F.C.C. crystal.   10M

OR

11. B). Explain substitutional and interstitial solid solutions with neat diagrams and appropriate examples.   10M

12. A). Explain isomorphous phase diagram with neat sketch.   10M

OR

12. B). Explain any one of the eutectic phase diagram with a neat sketch.   10M

13. A). Draw Iron-Iron carbide equilibrium diagram and label the phases.   10M

OR

13. B). Draw TTT diagram of 0.8% carbon steel and show various phases. Superimpose the cooling curve to obtain i) 100% pearlite, ii) 100% bainite and iii) 100% martensite.   10M

14. A). What are the classifications of cast iron? Mention their applications and properties.   10M

OR

14. B). Enumerate on different types of titanium alloys. Highlight their general characteristics and applications.   10M

15. A). Explain classification of composite materials and their applications.   10M

OR

15. B). Explain different types of polymers and their applications.   10M

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