QP Code:R251B043 | Reg. No | | | | | | | | | | | AY 24

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR

(GIET UNIVERSITY)

M.Tech. (First Semester) Regular Examinations, February – 2025

24MSEPE11021 – ADVANCED CONSTRUCTION MATERIALS

(Structural Engineering)

Time: 3 hrs | Maximum: 60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. Define compaction factor.	CO2	K2
b. Define segregation.	CO1	K2
c. Define sulphur attack.	CO3	K2
d. Mention the steps adopted to control segregation of concrete.	CO2	K2
e. Define the characteristic feature of ceramic materials?	CO1	K2

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions		Marks	CO #	Blooms Level
2. a.	Explain any three tests for fresh concrete in detail.	5	CO3	K2
b.	Explain the various methods of transportation of concrete.	5	CO1	K2
	(OR)			
c.	Explain in detail about High Strength Concrete.	5	CO2	K2
d.	Define non-destructive method of concrete.	5	CO4	K2
3.a.	Explain any one laboratory test to measure the workability of concrete with sketch.	5	CO2	K3
b.	Describe the applications for various fiber-reinforced plastics in sandwich panels.	5	CO1	K3
	(OR)			
c.	Explain in detail about Self Compacting Concrete.	5	CO3	K2
d.	What does the term "workability of concrete" mean, and how does it impact the concrete itself?	5	CO3	K2
4.a.	Write Short notes on Fiber reinforced concrete	5	CO1	K2
b.	Write Short notes on Light weight concrete	5	CO1	K2
	(OR)			
c.	What are the various types of composite materials and their use?	5	CO1	K2
d.	What are tests made for steel used in reinforced concrete construction	5	CO1	K2
5.a.	What is Terra coat? How it is manufactures	5	CO3	K2
b.	Write in detail about Earth reinforcement using Geomembrane	5	CO4	K2
	(OR)			
c.	What are Geosynthetics? How are they classified? What are the advantages & applications	5	CO2	K2
d.	Describe the process of manufacturing of Glass? Write the uses of glass in construction industry?	5	CO2	K2
6.a.	Explain in details heat treatment of steel	5	CO1	K2
b.	What are the various modeling of fiber reinforced concrete	5	CO2	K2
	(OR)			

c.	What is Glass? Explain the various properties of Glass	5	CO1	K2
d.	Describe the mechanical & deformational behavior and microstructure of hardened concrete	5	CO4	K2

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