

B.TECH.
(SEM VI) THEORY EXAMINATION 2022-23
MODERN CONSTRUCTION MATERIALS

Time: 3 Hours**Total Marks: 100****Note:** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

- (a) Which modern material is used in modern architecture?
- (b) What are the advantages of modern building materials?
- (c) What are the applications of Geosynthetics?
- (d) State the advantage of light weight concrete.
- (e) What is Ferro cement?
- (f) What are polymers?
- (g) List out the chemical used in anti-corrosive coating.
- (h) Define sulphur concrete.
- (i) List water proofing materials.
- (j) Name modern insulating materials.

SECTION B

2. Attempt any three of the following: 10x3=30

- (a) Discuss the properties, application and advantages of fiber reinforced concrete.
- (b) Why geosynthetics are used in soil improvement? What are the major applications of geosynthetics?
- (c) Critically compare different modern flooring materials.
- (d) How do polymers affect the properties of materials? Explain uses of polymers.
- (e) Write an explanatory note on the special features and applications of intelligent and smart modern construction materials

SECTION C

3. Attempt any one part of the following: 10x1=10

- (a) What are the properties of calcium silicate bricks? When where calcium silicate bricks used?
- (b) Write the properties of jute fiber polymer composite materials.

4. Attempt any one part of the following: 10x1=10

- (a) Discuss the different coating applied over reinforcement bars.
- (b) What are the different types of waste materials used in concrete? Explain any one waste material based concrete.

5. Attempt any one part of the following: 10x1=10

- (a) Discuss about waste material based concrete

- (b) What will be the possible water cement ratio for high strength concrete? What affect the density of concrete?

6. Attempt any *one* part of the following:

10x1=10

- (a) How fiber is reinforced polymer used in construction? Define carbon fiber reinforced polymer
- (b) What is sulphur infiltrated concrete? What properties of sulphur concrete?

7. Attempt any *one* part of the following:

10x1=10

- (a) What is the most efficient materials and why? What are modern ways of insulation?
- (b) Enumerate the organic and inorganic insulators. Give common types of sound insulators.

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