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Roll No. :

320671(20)

B.E. (Sixth Semester) Examination April-May 2021

(New Scheme)

(Civil Engg. Branch)

MODERN CONSTRUCTION MATERIAL

(Professional Elective-I)

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory, which is of 2 marks. Attempt any two parts from (b), (c) and (d) each is of 7 marks.

Unit-I

1. (a) Define ultra high strength concrete.

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- (b) What is fiber reinforced concrete? Discuss in brief. 7
- (c) Explain in detail about the flow properties of concrete. 7
- (d) What are the application of HPC? 7

Unit-II

2. (a) What is CTD rod? 2
- (b) Explain the different coating materials applied in bars. 7
- (c) Draw a neat sketch of "Cupola Furnace" & explain its working. 7
- (d) What are the necessities of alloy steel? 7

Unit-III

3. (a) What do you understand by Microscopic Composites? 2
- (b) What are the method used for polymerization? Explain. 7

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- (c) What are the different types of reinforcement used in composite material? 7
- (d) Write short notes on the following : 7
- (i) Laminar composite
- (ii) Geotextile and geomembrane
- (iii) CFRP
- (iv) SIMCON

Unit-IV

4. (a) Explain Facade Material. 2
- (b) What are the advantages & use of grant consisting of cement mortar & ad mixtures water proofing? 7
- (c) Write short note on different water proffing compound. 7
- (d) What is Facade? Explain different type of facade. 7

Unit-V

5. (a) What is Smart & Intelligent Material? 2

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- (b) Write short notes on : 7
- (i) Light Sensitive Materials
 - (ii) Electro-Strictive Materials
 - (iii) Thermoresponsive Materials
- (c) Explain the concept of smart brick & advantages of smart brick. 7
- (d) What is Piezometric Materials? Write some applications. 7