

B.E. (Civil Engineering) Seventh Semester (C.B.S.)
Elective - I : Advanced Construction Materials

P. Pages : 2

Time : Three Hours



TKN/KS/16/7527

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Diagrams and chemical equations should be given whenever necessary.
 4. Illustrate your answers whenever necessary with the help of neat sketches.
 5. Use of non programmable calculator is permitted.

1. a) What are supplementary cementing materials? Explain GGBFS. 7
- b) Write a note on high strength concrete. 7

OR

2. a) Classify various special purpose cements. Explain high alumina cement. 7
- b) Explain the effects of using lightweight aggregates in concrete. 7
3. a) Write a short note on physical characteristics of aluminum profile. 7
- b) What are the advantages and disadvantages of steel in onstruction? 7

OR

4. a) What are different protective coating used for steel? What is their function? 7
- b) Explain light weight steel construction with its advantages. 7
5. a) How polymers are produced? Explain. 7
- b) Write a note on fiber reinforced concrete. 6

OR

6. a) Write a note on ceramic composites. 7
- b) Write a note on thermal insulation materials. 6
7. a) What are superplasticizers? Explain briefly. 7
- b) Discuss use of waste material in development of new building materials. 6

OR

8. a) Classify construction chemicals. Give one example of each. 7
- b) What are geo-synthetics? What are their applications? 6

9. a) What materials are used in building formwork. Explain advantages and disadvantages of each. 7
- b) List and explain the causes of formwork failure. 6

OR

10. a) Write characteristics of good timber. 7
- b) What do you understand by veneer? Explain its usage. 6
11. a) Define smart material. Explain any one in detail. 7
- b) Describe the use of shape memory alloys and polymers 6

OR

12. a) What is benefit of using smart material? Explain with example. 7
- b) Where smart hydro gels are used? Describe their properties. 6

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