



DU – 017

V Semester B.E. (Civil) Examination, December 2017/January 2018  
(2K11 Scheme)  
CE– 505 : ADVANCED CONSTRUCTION MATERIALS AND  
MANAGEMENT

Time : 3 Hours

Max. Marks : 100

**Instruction :** Answer **any five full** questions choosing at least **2** questions from Part – A, **2** questions from Part – B.

PART – A

1. a) What do you mean by blended cement ? What are the advantages of blended cement ? 10  
b) Explain the mechanism of pozzolanic materials in concrete. Differentiate between chemical and mineral admixtures. 10
2. a) Define HPC. What are the main ingredients of HPC ? Explain. 10  
b) Discuss requirements, salient features and application of HPC. 10
3. a) Define FRC. What are the main ingredients and application of FRC ? 10  
b) Explain briefly the functional requirements of fibers, matrix and interface in FRC. 10
4. a) What is SIFCON ? Explain the constituent materials and mix proportion. 10  
b) Explain various stages of quality control and acceptance criterion. 10

PART – B

5. a) Discuss concept and various materials used as smart materials in civil engineering. 10  
b) What is material management ? Explain its characteristics. 10
6. a) Explain, briefly classification of construction schedule. 10  
b) Discuss merit and demerit of CPM and PERT. 10

P.T.O.



7. Analyse the network as shown in Fig. 1 Determine the critical path in the network and time required for the completion of the project.

20

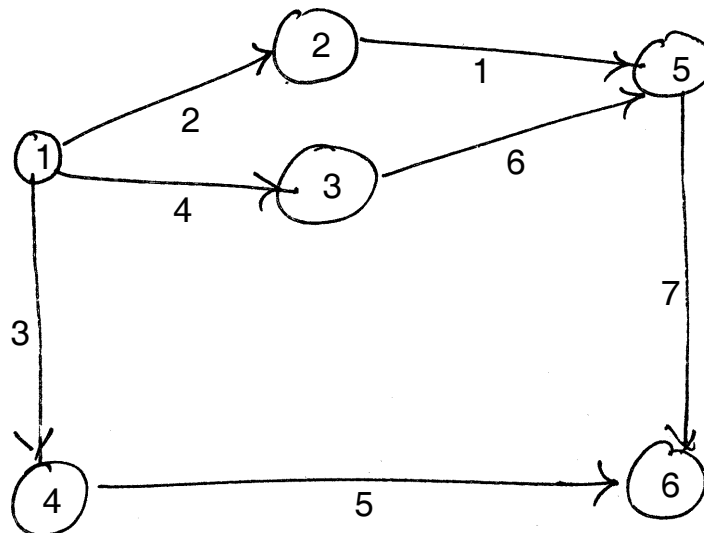


Fig. 1

8. Answer **any four** of the following :

(4×5=20)

- i) Bar charts and milestone charts
  - ii) Inventory controls
  - iii) Aspect ratio and different types of fibres used in cement concrete
  - iv) Influence of w/c ratio in production of high strength concrete
  - v) Polymer impregnated concrete
  - vi) Properties of HPC.
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