

**CE6506 –CONSTRUCTION TECHNIQUES, EQUIPMENTS & PRACTICE****QUESTION BANK****UNIT I CONCRETE TECHNOLOGY****PART-A**

2 marks

1. What is the chemical composition of cement?
2. List various types of cement.
3. What is grade of cement?
4. State the importance of water cement ratio.
5. What is meant by hydration of cement?
6. What are the tests available for fresh concrete as per Indian code of practice?
7. Define compaction factor.
8. What is meant by curing of concrete?
9. List any four concrete chemicals with its applications.
10. What is a slump test?

11. What are the tests to be conducted on fresh concrete
12. Write any three non destructive testing methods conducted in concrete.
13. What are the methods of compacting?
14. Mention any three destructive methods of testing concrete.
15. What is the necessity for curing of concrete.

### **PART-B**

1. What are the steps involved in manufacturing of concrete explain detailed. (16)
2. Explain briefly about the chemicals used in concrete and their advantages. (16)
3. i) Write the step by step procedure for BIS mix design . (8)  
ii) Explain the procedure of compression test on concrete. (8)
4. Explain all the different types of curing of concrete . (16)
5. Explain all the different methods adopting to transport concrete. (16)
6. i) Explain the ACI method of mix design. (8)  
ii) Explain any one non-destructive method of testing concrete. (8)
7. i) Explain the workability of concrete. (8)  
ii). What are admixtures? Explain any two. (8)

8. What are the tests which are conducted for hardened concrete and explain any two test in detail. (16)

## UNIT II CONSTRUCTION PRACTICES

### PART-A

1. What are the general specifications for first class building?
2. What are monolithic wall?
3. Define plinth.
4. What are classifications of stone masonry ?
5. What is rubble masonry and ashlar masonry?
6. Compare English bond and Double Flemish bond.
7. What are the defects in brick masonry?. Defects in brick masonry.
8. Mention the common sizes of building blocks.
9. What the types of flooring ?
10. Define damp proof course., what are its causes of dampness?
11. Define roofs.
12. What are the uses of water proofing compounds?
13. What are the condition for filters?
14. Define fire resistance.
15. Define acoustics
16. What are the conditions for good acoustics of an auditorium?
17. Define scaffolding.
18. Write the types of scaffolding.
19. Write any some materials used for joints.
20. Define flooring

**PART-B**

1. Explain the various types of foundation with neat sketches. (16)
2. i) Explain the various types of stone masonry with neat sketches. (8)  
ii) Make a comparison between stone masonry and brick masonry. (8)
3. Explain all the different types of bonds in masonry. (16)
4. Explain the various types of flooring with neat sketches. (16)
5. i) Explain the various types of trusses with neat sketches. (8)  
ii) Explain the various types of roof finishes with neat sketches. (8)
6. i) Explain the step by step procedure of laying of brick. (8)  
ii) Explain acoustic of the building (8)
7. Write the fire protective & acoustic requirement of the building. (16)
- 8 .i). Define dampness. (2)  
ii). What are all the causes of dampness? (4)  
iii) Explain the various methods of damp proofing. (10)
9. Explain types of scaffolding with neat sketches. (16)
10. Explain the different types of joints in buildings with neat sketches. (16)

**UNIT III SUB STRUCTURE CONSTRUCTION****PART-A**

- 1) What is a cofferdam? When it used ?
- 2) What is a caisson? What are the types of caisson?
- 3) What are the components of well foundation?
- 4) What are the operations involved in open caisson method of foundation?
- 5) What are the uses of sheet piles?
- 6) What is meant by pipe jacking?
- 7) What is dewatering? Where it is used?
- 8) What is a under-ream pile?
- 9) Write about spacing of piles?
- 10) Write notes on suspended scaffolding.
- 11) Write about centering and shuttering.
- 12) What is a Kent ledge?
- 13) What are the methods used for tunnel driving?
- 14) What is mucking?
- 15) What are the advantages of drift method?
- 16) What is cement grouting ?
- 17) Write the situations under which pile foundation is recommended.
- 18) Write the essential features of a pump to be used for dewatering.
- 19) What is the equipment used for driving a pre-cast pile in a sandy soil?

**PART-B**

1. Explain under water construction of diaphragm walls with neat sketches. (16)
2. i) Explain the operation procedure for caissons. (8)  
ii) Explain the various types of sheet piles. (8)
3. Explain the various methods of piling. (16)
4. Write notes on Dewatering and stand by Plant equipment for underground open excavation. (16)
5. i) What is under reamed pile? Explain its field applications. (8)  
ii) Briefly explain the sinking of a pneumatic caisson. (8)
6. Describe the various methods employed to bring a tilted well to position while constructing a well foundation. (16)
- 7.i). What is Pneumatic caisson ? (2)  
ii) Where is it adopted? (4)  
iii). How is it constructed? (10)
8. i) Explain with neat sketches box jacking techniques. (8)  
ii). Explain all the techniques adopted for tunneling? (8)

## UNIT IV SUPER STRUCTURE CONSTRUCTION PART-A

1. What are launching girders?
2. What are bridge decks?
3. What are offshore platforms?
4. What are Jacket platforms?
5. What are gravity towers?
6. What is a bow-string bridge?
7. What are cable-stayed bridges?
8. What is chimney?
9. State the dimension of flue hole opening in chimney.
10. What are the various loads acting on a chimney?
11. How is lining made in chimney?
12. What are the various types of chimneys?
13. What are the forms used in the construction of chimney?
14. What are cooling towers
15. What are the methods of prestressing?
16. What are the systems of prestressing?
17. What are the advantages of prestressed cement concrete?
18. How are domes erected ?
19. What are shells?
20. How are shells classified ?

**PART –B**

1. i) Explain the types of bridge decks with sketch. (8)  
ii) Explain the procedure of erecting heavy decks. (8)
2. Write detailed notes on erecting light weight components on tall structures. (16)
3. Explain the method of Erection of articulated structures. (16)
4. i) Write notes on braced domes and space decks. (8)  
ii) Explain different types of Domes. (8)
5. Explain the construction steps of tall buildings. (16)
6. Explain the steps involved in the erection of a steel truss and covering it with asbestos cement sheet roofing. (16)
7. i) Explain the process of insitu pre stressing of a high rise structure. (8)  
ii) Discuss the merits and demerits of shell roofs (8)
8. Write the advantages of prestressed concrete as compared to normal reinforced concrete structures. (16)

## UNIT V CONSTRUCTION EQUIPMENT PART-A

1. What are the advantages of using trenchers?
2. Define dredging.
3. Mention the various operations involved in grading?
4. What are the factors affecting the selection of drilling equipment?
5. Define hardness. Which is the hardest known substance?
6. Define texture. What are its classification?
7. What are the types of drilling equipment?
8. Define blasting.
9. What are the parameters to be examined while blasting for quarrying?
10. What are the types of dredgers?
11. Mention the sequence of operations involved in driving the tunnel through rock.
12. What are the objectives of ventilation system in a tunnel?
13. Define mucking.
14. What is a tractor & its types?
15. Define compaction.
16. Define surface load.
17. What are the factors influencing compaction?
18. What are the equipments used for volume batching?
19. What are the advantages of using belt conveyors?

**PART-B**

1. i) Write notes on trenching equipment. (8)  
ii) Write notes on equipment used for erection of structures. (8)
2. What are all the points should be considered while selecting an earth work equipment. (16)
3. Explain the important and working of tractors and scrapers. (16)
4. i) Explain the equipment used for mixing and compaction of concrete. (8)  
ii) Discuss the factors influencing the selection of equipment for work. (8)
5. Explain briefly about the various pile driving equipments. (16)
6. Discuss about the various equipments used in pile driving. (16)
7. Explain the different types of cranes. (16)
10. Explain the different types of Rollers. (16)

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