

Concrete Technology

P. Pages : 2

Time : Three Hours



NKT/KS/17/7211

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Due credit will be given to neatness and adequate dimensions.
 9. Illustrate your answers whenever necessary with the help of neat sketches.
 10. Use of non programmable calculator is permitted.

1. a) List different types of cements. Explain any two type in detail. **6**
- b) What are the sources of aggregates. Explain the classification's of Aggregate. **8**

OR

2. a) Explain field test on cement? Also Explain soundness test on cement. **7**
- b) Explain the test on specific gravity, Bulk density & moisture content of aggregate. **7**
3. a) What is workability? List out the tests for workability measurements. compare volume Batching & weight Batching. **7**
- b) Explain significance of concrete curing? Also explain maturity of concrete. **6**

OR

4. a) Write a short note on hot weather concreting and underwater concreting. **7**
- b) Explain significance of water cement ratio. What is segregation and bleeding in concrete. **6**
5. Write short notes on **any three**. **13**
- i) Flexural strength test on concrete.
 - ii) Poisson's ratio of concrete.
 - iii) Factors affecting compressive strength
 - iv) Accelerated curing Test.

OR

6. a) Compare compression test by cube strength and cylinder strength. Explain Abrasion Resistance. **7**
- b) Explain shear strength, modulus of elasticity of concrete. **6**

7. a) Explain Mix Design process? What are the factors affecting mix properties? Also explain aggregate cement ratio. 7
- b) Write a short note on corrosion inhibitors and water proofing agents. 6

OR

8. a) Explain concrete Mix Design by Road Note No. 4 (BS). 7
- b) Write a short note on Air entraining admixtures plasticizers and super-plasticizers. 6
9. a) Explain in brief self – compacting concrete and High performance concrete. 7
- b) Explain the factors affecting creep and shrinkage of concrete. 7

OR

10. Explain. 4
- i) Differential shrinkage. 4
- ii) Relation between creep & time. 5
- iii) Shortcrete pumped Concrete. 5
11. a) Explain water as an agent of deterioration of concrete. 6
- b) Explain Repairs of cracks – materials & methods. 7

OR

12. a) Explain Non-Destructive Tests on concrete. 6
- b) Write a note on "Distress in concrete structures and it's causes. 7
