B.E.Third Semester (Civil Engineering) (C.B.S.)

Concrete Technology

P. Pages: 2 Time: Three Hours



NKT/KS/17/7211

Max. Marks: 80

| | Notes | s: 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. | |
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| | 7 | | |
| 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 |
| | U) | What are the sources of aggregates. Explain the classifications of Aggregate. | , |
| | | OR | |
| 2. | 0) | Explain field test on cement? Also Explain soundness test on cement. | 7 |
| 4. | a) | Explain field test on cement: Also Explain soundless test on cement. | , |
| | 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 | 7 |
| J. | a) | Batching & weight Batching. | |
| | | Butching & weight Butching. | |
| | 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 |
| | 0) | Explain significance of water content ratio. What is segregation and steeding in concrete. | , |
| 5. | | Write short notes on any three. | 3 |
| | | i) Flexural strength test on concrete. | |
| | | ii) Poisson's ratio of concrete. | |
| | | iii) Factors affecting compressive strength | |
| | | iv) Accelerated curing Test. | |
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| _ | < (A) | OR | |
| 5 |) / \ | | |
| 6. | a) | Compare compression test by cube strength and cylinder strength. Explain Abrasion | 7 |
| | - | Resistance. | |
| | | | |
| | 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 |
|-----|----|---|---|
| 9) | 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 |
| Λ | | OR | |
| 10. | 7 | Explain. 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 |
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