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CT-502/ConcreteTech./5th Sem/2017/N

CONCRETE TECHNOLOGY

Full Marks – 70

Pass Marks – 28

Time – Three hours

**The figures in the margin indicate full marks
for the questions.**

PART – A

Marks – 25

Answer *all* the questions :

1. For quality control of Portland cement, the test essentially done is 2
 - (a) setting time
 - (b) soundness
 - (c) tensile strength
 - (d) All of the above.

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2. Which compound liberates higher heat ? 2
(a) C 3S (b) C 2S
(c) C 3A (d) C 4AF
3. In M 20 concrete M refers to 2
(a) Minimum (b) Maximum
(c) Mix proportion (d) None.
4. The size of the coarse aggregate is more than 2
(a) 1.16 mm (b) 2.36 mm
(c) 4.75 mm (d) None.
5. The easiness of handling concrete is known as 2
(a) Workability (b) Consistency
(c) Hardness (d) None of these.
6. Device which is used to find out normal consistency of cement is 2
(a) Le - Chatelier (b) Permeability apparatus
(c) Vicat apparatus (d) None.

7. In concrete cube test, the standard size of cube is 2
(a) 15 cm × 15 cm × 15 cm
(b) 10 cm × 10 cm × 10 cm
(c) 25 cm × 25 cm × 25 cm
(d) None of the above.
8. Fine aggregates are the aggregates having the size less than 2
(a) 5 mm (b) 4.75 mm
(c) 3.50 mm (d) 2 mm.
9. The resistance of an aggregate to compressive forces is known as 2
(a) Crushing strength
(b) Impact value
(c) Shear resistance
(d) None of the above.
10. Concrete is strong in 2
(a) Compression (b) Tension
(c) Buckling (d) Flexure.

11. The role of gypsum in cement is 2

- (a) Accelerate setting process
- (b) Retard setting process
- (c) No affects
- (d) None of the above.

12. The minimum 28 days' compressive strength of 43 grade cement is 2

- (a) 23 MPa
- (c) 33 MPa
- (c) 40 MPa
- (d) 43 MPa.

13. Lower the normal consistency value 1

- (a) lower will be the strength of concrete
- (b) medium will be the strength of concrete
- (c) higher will be the strength of concrete
- (d) None of the above.

PART - B

Marks -- 45

Answer any five questions : 9×5=45

14. Write short notes on : 9

- (a) Ferro-cement concrete
- (b) Polymer concrete
- (c) Lightweight concrete.

15. Write down about the whole manufacturing process of cement. 9

16. Define workability. What are the various factors affecting the workability. 9

17. Discuss rheology and rheological properties of concrete in details. 9

18. What are the main mechanical properties of the aggregates and how they are determined ? 9

19. What are admixtures ? What are the different types and uses of admixtures ? 9