Total No. of printed pages = 5

CT-502/CT/5th Sem/2018/M

CONCRETE TECHNOLOGY

Full Marks – 70

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

2. Which compound liberates higher heat ? 2

   (A) C3S (B) C2S

   (C) C3A (D) C4AF

3. In M20 concrete M refers to 2

   (A) Minimum (B) Maximum

   (C) Mix proportion (D) None of the above

[Turn over

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 of the above

5. The easiness of handling concrete is known as 2

(A) Workability (B) Consistency

(C) Hardness (D) None of the above

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 of the above

7. In concrete cube test, the standard size of cube is 2

(A) 15cm × 15cm × 15cm

(B) 10cm × 10cm × 10cm

(C) 25cm × 25cm × 25cm

(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 (B) 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.

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