

17209

16117

3 Hours / 100 Marks

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any TEN of the following: 20**
- a) Enlist any four basic areas of civil engineering.
 - b) State any two application of construction management.
 - c) Distinguish between stone and rock.
 - d) State any two properties and uses of bitumen.
 - e) State constituents of good quality brick.
 - f) Give standard dimensions of:
 - (i) Conventional Brick
 - (ii) Modular Brick / Standard Brick
 - g) State any four different types of cement.
 - h) Write any two advantages of pre-cast block.
 - i) Mention any two water proofing material brands available in market.

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- j) What is coir?
- k) Enlist any four different types of paint.
- l) Write any two situations where lime mortar can be used.
- m) Write any two properties of blast furnace slag.
- n) Define:
 - (i) Brick husk
 - (ii) Blast furnace slag

2. Attempt any FOUR of the following: 16

- a) Write any four criteria for selection of construction material.
- b) Explain role of civil engineer in construction management.
- c) Enlist any four defects in timber.
- d) Enlist types of bituminous material used in construction and explain any one.
- e) State constituent materials in brick earth.
- f) Enlist any four field test on cement.

3. Attempt any FOUR of the following: 16

- a) Enlist any four properties of good timber.
- b) State the requirement of good building stone.
- c) Write any four characteristic of good tile.
- d) List any four common field test carried out on bricks.
- e) Write any four properties of Damp-proofing materials.
- f) Write any four uses of asbestos fibres.

4. Attempt any FOUR of the following: 16

- a) Enlist various test conducted on bitumen and explain any one.
- b) Define Asphalt. Write any two properties of asphalt.
- c) State properties of fine aggregates and coarse aggregates.
- d) Write any four properties of Geo-synthetic materials.
- e) Write any four uses of termite proofing material.
- f) Write any four properties of cement mortar.

- 5. Attempt any FOUR of the following:** **16**
- a) State any four properties of hydraulic lime.
 - b) Compare asphalt and tar with respect to:
 - (i) Setting time
 - (ii) Use
 - c) Explain wet process of manufacturing of cement.
 - d) State various thermal insulating materials and state any two properties of insulating materials.
 - e) Write any two advantages and disadvantages of glass cladding.
 - f) Write any four properties of sound insulating material.
- 6. Attempt any FOUR of following:** **16**
- a) State importance of special types of bricks and write their applications.
 - b) State the importance of flooring tiles and roofing tiles in building and give two names of flooring and roofing tiles according to materials.
 - c) What are ingredients of good mortar and explain how you decide good mortar.
 - d) Write any four applications of construction waste.
 - e) Write two uses of each:
 - (i) fly ash
 - (ii) construction waste
 - (iii) rubber waste
 - (iv) saw dust
 - f) What is construction waste? How it is applicable in civil engineering?
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