

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 <u>TEN</u> 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.	

- 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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