

22204

11920

3 Hours / 70 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following :

10

- (a) State role of Civil Engineering in human life.
- (b) List any four applications of irrigation engineering.
- (c) Define quarrying of stones. State any two methods of quarrying.
- (d) Enlist any four types of flooring tiles.
- (e) Enlist any four types of special bricks.
- (f) Define enamel paint and plastic paint.
- (g) Enlist any four properties of Ferrocrete.

2. Attempt any THREE of the following :

12

- (a) State the role of Civil Engineer in the field of Environmental Engineering.
- (b) What do you mean by eco-friendly building materials ? State any two properties of it.

- (c) Draw cross-section of trunk of timber. Give any four Engineering properties timber.
- (d) Explain two properties and two uses of sand.

3. Attempt any THREE of the following :

12

- (a) Draw neat sketches, showing all the dimensions of :
 - (i) Conventional bricks and
 - (ii) Standard bricks
- (b) Draw flow-chart showing various stages in wet process of manufacturing of cement.
- (c) Suggest the type of glass used for the following work :
 - (i) Making panel of partition wall
 - (ii) Cashier cabin
 - (iii) Sky light
 - (iv) Door shutter
- (d) Explain the method by which waterproofing of existing old slab can be done.

4. Attempt any THREE of the following :

12

- (a) Explain defects in timber with neat labelled sketches.
- (b) Explain the field tests performed on bricks for its suitability.
- (c) State various thermal insulating materials. State any two properties of insulating material.
- (d) State important properties and uses of geo-polymer cement.
- (e) State the properties and uses of distemper.

5. Attempt any THREE of the following :**12**

- (a) Define asphalt and state any three properties of asphalt.
- (b) Describe the selection criteria for selecting stone for face work of building.
- (c) State the uses (two each) of the following construction materials :
 - (i) Soda lime glass
 - (ii) Ferrous metal
- (d) State the two uses of the following construction materials :
 - (i) Hollow blocks
 - (ii) Pavement blocks
- (e) State any two properties and any two uses of fly ash.

6. Attempt any THREE of the following :**12**

- (a) State four types of special mortars and give one use of each.
 - (b) Enlist constituent of Plaster of Paris and state the two uses of Plaster of Paris.
 - (c) Explain about by Geo-synthetic materials. Mention application of it.
 - (d) Explain about Agro waste material. State its importance in construction.
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