

<b>3E1624</b>	Roll No. _____	Total No. of Pages : <b>3</b>
	<b>3E1624</b>	
<b>B. Tech. (Sem. III) (Main / Back) Examination, December - 2017</b>		
<b>Civil Engg.</b>		
<b>3CE4A Construction Technology</b>		

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 26

*Attempt any five questions, selecting one question from each unit.  
All Questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

*Use of following supporting materials is permitted during examination.  
(Mentioned in form No. 205)*

1. \_\_\_\_\_ Nil \_\_\_\_\_ 2. \_\_\_\_\_ Nil \_\_\_\_\_

### UNIT - I

- 1 (a) What is a building ? What are the components of a building ? Explain in detail. 8
- (b) What do you understand by Pre-cast structures ? What are the advantages and disadvantages of Pre-cast structure ? 8

OR

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[ P.T.O.

- 1 (a) Define scaffolding ? What are the components of scaffolding ? Explain any two types of scaffolding with neat diagram. 10
- (b) What is the significance of providing foundation to the building ? Explain designing criteria for width of a shallow foundation. 6

### UNIT - II

- 2 (a) Enumerate the structural components of an arch with neat diagram. Explain pointed arch and Florentine arch. 10
- (b) Explain the various technical terms used in case of stair with neat diagram. 6

#### OR

- 2 (a) Define the general principles to be considered in case of damp proofing. Explain air drain and asphalt tanking methods of damp proofing with diagram. 8
- (b) What is the purpose of providing a partition wall ? Explain brick-nogged partition and stud partition with diagram. 8

### UNIT - III

- 3 (a) Explain the precautions to be taken during the erection of steel structures at the slopes. 6
- (b) What is a composite floor ? What are the features of a composite floor ? Explain the construction mechanism of jack arch floor. 10

#### OR

- 3 (a) Explain following with diagram of a pitched roof -  
(i) Battens  
(ii) Dragon Beam  
(iii) Purlins  
(iv) Rafters 2×4=8
- (b) Describe at least four types of pitched roof with diagram. 8

**UNIT - IV**

- 4 (a) Explain following -  
(i) Dewatering equipments  
(ii) Grouting equipments  
(iii) Pile driving equipments  
(iv) Compaction equipments 2.5×4=10
- (b) Explain the functioning of Asphalt batch hot mix plant. 6

**OR**

- 4 (a) What are the pumping equipments ? Explain their functioning in detail. 10
- (b) How the latest innovations in construction equipments has affected the working of construction industry ? Explain. 6

**UNIT - V**

- 5 (a) How would you explain forecasting of equipments ? Explain briefly. 6
- (b) Explain following -  
(i) Owning cost  
(ii) Investment cost  
(iii) Overhead cost  
(iv) Operation cost  
(v) Depreciation 2×5=10

**OR**

- 5 (a) Explain break-even point theory with major concern of determination of break-even point value. 8
- (b) What is preventive maintenance ? What are its functions ? Explain. 8