C16-C–505

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BOARD DIPLOMA EXAMINATION, (C-16)

AUGUST/SEPTEMBER—2021

DCE - FIFTH SEMESTER EXAMINATION

ADVANCED CIVIL ENGINEERING TECHNOLOGIES

Time : 3 hours] [*Total Marks* : 80

PART—A

3×10=30

Instructions : (1) Answer all questions.

(2) Each question carries three marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write any three applications of IoT in smart factory and smart manufacturing.

2. State the working principle of IoT.

3. Define GIS and state any two functions of it.

4. List various losses in prestress.

* 5. Define reinforced anchored earth wall with a neat sketch.

6. Write any three advantages of Geogrids in reinforced earth retaining walls.

7. Differentiate prefabricated structure with RCC structure.

8. Write the uses of prefabrication.

9. Differentiate magnitude and intensity of earthquake.

10. State the benefits of providing solar energy utilities for a building.

PART—B

Instructions :   (1) Answer *any* five questions.

(2) Each question carries ten marks.

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11.   Define IoT and explain the advantages and disadvantages in it.   10

12.   Define EDM and explain the principle and uses of EDM.   10

13.   *(a)* Write the advantages and disadvantages of pre-stressed concrete.   5

(b) Differentiate pre-tensioning with post-tensioning system.   5

14.   Explain with a neat sketch of *(a)* Gifford Udal system and *(b)* Lee-McCall system.   5+5

15.   Explain the construction methodology of Geogrid reinforced soil retaining wall.   10

16.   List the types of prefabricated systems and explain the framed system in it.   10

17.   Explain the provisions of seismic resistant construction of RC buildings as per IS 13920.   10

18.   Explain the concept of active and passive solar heating systems.   10

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