C16-**C-505**

6624

BOARD DIPLOMA EXAMINATIONS

SEPTEMBER/OCTOBER-2020

DCE - FIFTH SEMESTER

ADVANCED CIVIL ENGINEERING TECHNOLOGIES

Time: 3 hours Max. Marks: 80

PART – A **3 X 10 = 30**

Instructions: *1. Answer **all** questions.*
*2. Each question carries **Three** Marks.*
3. Answer should be brief and straight to the point and should not exceed Five simple sentences.

1. Define IoT and List out any two of key features.
2. State any three advantages of IoT?
3. State the components of GIS?
4. State any three differences between Pre tensioning and Post tensioning.
5. What is meant by Mechanical stabilization?
6. List any three applications of Geo mats.
7. What is prefabricated building?
8. State any three advantages of a prefabricated building?
9. Define
   a) Magnitude b)Focus c) Epicenter
10. Briefly explain the terms Solar building and Solar energy.

PART – B 5 X 10 = 50

Instructions: *1. Answer any **Five** questions*
*2. Each question carries **TEN** Marks.*
3. Answer should be comprehensive and Criteria for Valuation is the content but not the length of the answer.

11. Explain the applications of IoT in Smart Home.

12. What are the applications of GPS in Civil Engineering?

13. Explain the following Post tensioning systems. (2x5=10)

    a) Freyssinet System.

    b) Magnel Blaton System

14. a) What is Pre stressed Concrete? (2)

    b) State any four advantages and four disadvantages of Prestressed Concrete. (8)

15. Explain the Construction methodology of reinforced anchored Earth wall.

16. a) What is the need for Pre Fabrication? (2)

    b) What is the important of standardization and modularization in prefabrication? (8)

17. What is an earth quake? Explain the characteristics of earth quake.

18. Explain about the Roof top power generation systems.

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BOARD DIPLOMA EXAMINATION, (C–16)

NOVEMBER—2020

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. Define the term IoT.

2. State any three key features of smart city.

3. State any three applications of GPS in civil engineering.

4. List any six losses of pre-stress.

5. What is retaining wall?

6. State any three types of retaining walls.

7. Define magnitude and intensity of earthquake.

8. What is solar energy?

9. Define prefabrication.

10. State the importance for standardisation in the context of prefabrication.

PART—B

10×5=50

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

(2) Each question carries **ten** marks.

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

11. Explain the applications of IoT in *(a)* smart buildings and *(b)* smart transportation.

12. Explain the method of taking coordinates of various points using GPS.

13. Explain the Freyssinet system of pretensioning with a neat sketch.

14. State any six advantages and four disadvantages of prestressed concrete.

15. Explain seismic resistant construction of RC Buildings as per IS codal provisions.

16. Explain the process of reinforcing earth with Geogrids.

17. Explain passive solar heating.

18. Explain the large systems of prefabrication.

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