6624

**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.

★ ★ ★