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C16-C-505**6624****BOARD DIPLOMA EXAMINATION, (C-16)****OCTOBER/NOVEMBER—2023****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. List any three applications of IoT in smart transportation.
2. State any three demerits of IoT.
3. List the types of data used in GIS.
4. List any two systems of pre-tensioning.
5. Write the concepts of earth retaining structures.
6. Distinguish between active and passive earth pressure.
7. Define pre-fabricated building.
8. State any three advantages of pre-fabricated structures.
9. Define magnitude and intensity of earthquake.
10. Define solar energy.

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PART—B

10×5=50

- 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.** Explain the applications of IoT in (a) smart cities and (b) smart energy and smart grid. 10
- 12.** Explain the principles and the uses of EDM. 10
- 13.** Explain the Gifford Udall system of pretensioning with a neat sketch. 10
- 14.** Explain the fundamental principles of prestressed concrete. 10
- 15.** Explain about alternate retaining techniques. 10
- 16.** (a) List out the types of prefabricated systems. 5
(b) Explain the materials used in prefabricated construction. 5
- 17.** Explain the seismic resistant construction of brick and stone masonry buildings as per IS 4326. 10
- 18.** Explain roof top solar power-generation systems. 10

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