



c16-c-505

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**BOARD DIPLOMA EXAMINATION, (C-16)**

**MARCH/APRIL—2021**

**DCE - FIFTH SEMESTER EXAMINATION**

**ADVANCED CIVIL ENGINEERING TECHNOLOGIES**

Time : 3 hours ]

[ Total Marks : 80

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**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. State any three modern surveying instruments.
4. State any three of prestressed concrete.
5. List out any three alternative earth retaining techniques.
6. What are Gabion meshes?
7. State any three uses of pre-fabrication.
8. State any three reasons to choose precast construction method over conventional *in situ* method.
9. State any three characteristics of earthquake.
10. How is solar energy utilized in Air heaters?

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## 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.** Explain the applications of IoT in Food and Water tracking. 10
- 12.** Explain the principles and the uses of EDM. 10
- 13.** Explain any five losses of prestress in the prestressed concrete. 10
- 14.** (a) Write a short note on Lee Mc Call system. 4  
(b) Explain the requirements of steel and concrete for Prestressed concrete. 6
- 15.** Explain about Geo mats in earth retaining structures. 10
- 16.** (a) List out the types of prefabricated systems. 2  
(b) Explain the materials used in prefabricated construction. 8
- 17.** Explain the Seismic resistant construction of brick and stone masonry buildings as per IS 4326. 10
- 18.** (a) What is Solar Power? 2  
(b) Explain the uses of solar energy. 8

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