C16-**C-505**

6624

BOARD DIPLOMA EXAMINATIONS

OCT/NOV-2019

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. State the Working principle of ioT.
2. State any three components of ioT.
3. List any three types of Map projection.
4. List out any three losses of prestresses.
5. List any three advantages of advanced earth retaining structures.
6. What is Soil nailing ?
7. State any three required characteristics of materials used in pre-fabricated construction.
8. Briefly explain the concept of pre fabrication.
9. State the types of Seismic waves ?
10. What are active and passive solar techniques ?

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 how IoT can be applied in smart cities and in smart health.
12. Explain the data used in GIS.
13. (a) What are the different types of pre stressing used in concrete ?
    (b)Explain Gifford Udall Post-tensioning system with neat sketch.
14. (a)Explain the terms (i) post tensioning (ii) Circular pre stressing.
    (b) Explain the Pre tensioning by Hoyer system.
15. Explain the construction methodology of Geo grid reinforced soil retaining walls.
16. Explain the following Pre fabricated systems.
    (a) Large Panel system
    (b) Slab / column with wall System.
17. Explain about the construction of Seismic resistant RC buildings as per IS 13920.
18. Explain how solar energy is utilized in
    (a) Water pump sets.
    (b) Cooking.
    (c) Lighting.
    (d) Water heating.