4227

BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2021
DCE - THIRD SEMESTER EXAMINATION
HYDRAULICS

Time : 3 hours]   [*Total Marks* : 80

PART—A   4×5=20

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

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

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define specific mass and specific weight.

2. Write the uses of any two of the following instruments ?

(i) Piezometer

(ii) Pitot tube

(iii) Venturimeter

(iv) U-tube differential manometer

3. Define laminar flow and turbulent flow.

4. Write the discharge equation for large rectangular orifice and name the terms.

5. List out different types of weirs according to the shape of the opening.

6. Define velocity of approach.

7. Write the formula to calculate the major loss.

8. Define most economical channel section.

9. What is the use of foot valve and strainer in centrifugal pumps?

10. List out any four component parts of a hydroelectric power plant.

PART—B

15×4=60

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

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

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

11. Define the following :

(i) Atmospheric pressure

(ii) Gauge pressure

(iii) Absolute pressure

12. Explain the following :

(i) Datum head

(ii) Pressure head

(iii) Velocity head

13. Differentiate between orifice and mouth piece and list out their various types.

14. Draw the cross sections of the following notches and write the discharge equation :

    (i) Rectangular notch

    (ii) Triangular notch

15. List any five minor losses in pipe flow and write the relative formulae.

16. Write the uses of water pressure in daily life and what is the role of Civil Engineer in hydraulic structures.

17. Differentiate between river flow and pipe flow.

18. Write the classification of turbines.

★ ★ ★