

DIPLOMA IN CIVIL ENGINEERING (DCLEVI)**Term-End Examination****December, 2015****BICEE-007 : WATER POWER ENGINEERING***Time : 2 hours**Maximum Marks : 70*

Note : Answer *five* questions in all. Question no. 1 is **compulsory**. All questions carry equal marks.

1. Select the correct answer for the following questions :

$7 \times 2 = 14$

- (a) The science and practice of water flow measurement is known as _____ .
- (i) Hydrometeorology
 - (ii) Hydrometry
 - (iii) Hypsometry
 - (iv) Flumimetry
- (b) A plot between rainfall intensity and time is
- (i) Hydrograph
 - (ii) Mass curve
 - (iii) Hyetograph
 - (iv) Isohyet

- (c) The maximum rate at which a given soil at a given time can absorb water is defined as _____ .
- (i) Infiltration capacity
 - (ii) Field capacity
 - (iii) Infiltration
 - (iv) Evaporation
- (d) Disadvantage of gravity dams is
- (i) require least maintenance
 - (ii) require skilled labour
 - (iii) more strong
 - (iv) no sudden failure
- (e) _____ is an enlarged body of water just in front of the intake.
- (i) Transform bay
 - (ii) Turbine water
 - (iii) Forebay
 - (iv) Penstock
- (f) _____ turbines are capable of working under the heads ranging from 30 to 150 m.
- (i) Low head
 - (ii) Medium head
 - (iii) High head
 - (iv) Impulse

- (g) Interception losses _____ .
- (i) include evaporation, through flow and stem flow
 - (ii) consist of only evaporation loss
 - (iii) include evaporation and transpiration losses
 - (iv) consist of only stem flow
2. (a) Write an assessment of the Hydropower potential in India. 7
- (b) What are the different types of dams ? Discuss the factors that govern the choice of dams. 7
3. What is meant by flow-duration curve and power-duration curve ? How do you differentiate these ? 14
4. (a) Where are valves used in a penstock ? Explain with sketches the various types of penstock valves. 10
- (b) Write a short note on Valley Dam Plants. 4
5. What is the function of a spillway ? Give a classification of spillways, with neat sketches. 14

6. (a) What is Buttress dam ? Describe the functions of its component parts. 7
- (b) Write a note on storage and pondage. 7
7. (a) Write a note on the selection of suitable types of turbine for varying conditions. 7
- (b) What is Surge Tank ? Briefly describe its functions. 7
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