

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CE) (2012 to 2017) (Sem.-7,8)

IRRIGATION ENGINEERING-II

Subject Code : BTCE-803

M.Code : 71861

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1) Answer briefly :

- a) If the high flood discharge of a river is 7000 cumecs, calculate the approximate waterway required for design of barrage.
- b) Define Afflux.
- c) Write the expression for determination of centre of pressure for a vertical plane surface submerged in a liquid.
- d) If the Bligh's coefficient is 10.0 and the head loss in a weir is 1.0 m, calculate the total creep length required for designing of weir.
- e) "When the equipotential lines are closer, the rate of loss of head will be quicker". Justify the statement with reasons.
- f) If the RL of total energy line above the crest of a Sarada type canal fall is 104.0 m and the head over the crest is 0.5 m, what will be the RL of crest?
- g) Write the examples of rigid module.
- h) What is the function of head regulator?
- i) Differentiate between aqueduct and super-passage.
- j) What are the different types of fall generally constructed in a canal system?

SECTION-B

- 2) What is meant by piping on foundation of a weir? What are the precautions can be adopted to keep safe the foundation against piping?
- 3) What are the functions of launching apron provided downstream to weir? Draw a neat sketch of launching apron showing its detailed designed aspect.
- 4) Explain the working of adjustable orifice semi module with neat sketch.
- 5) What is the function of metering flume? Describe the working principle of different metering flume with neat sketch.
- 6) What are the various corrections used for determination of seepage pressures below weir or barrage using Khosla's method of independent variable? Explain with their expressions.

SECTION-C

- 7) Under what condition siphons are provided as a cross drainage work? Draw a plan and section through a typical branch canal siphon.
- 8) Design baffle platform and baffle wall for an unflumed non-meter baffle fall for the canal having following data :

Full supply discharge = 35 cusecs; upstream bed level = 210.0 m; downstream bed level = 208.0 m; upstream full supply level = 211.3.0 m; downstream full supply level = 209.3.0 m; Bed width of canal = 30 m; side slope of channel =1:1.
- 9) How does a diversion weir aligned? Draw a neat sketch of diversion weir showing the different components of it and explain their functioning.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.