

**M. TECH.-III (CIVIL-HYDRAULIC ENGINEERING) (CBCS – 2015
COURSE) : WINTER - 2017**
**SUBJECT : SELF STUDY- I : OPERATION & MAINTENANCE OF HYDRAULIC
STRUCTURE**

Day : **Thursday**
Date : **25/01/2018**

W-2017-2838

Time : **11.00 AM TO 02.00 PM**
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION – I

Q.1 Enlist the various types of hydraulic structures which need care to be taken during operation and maintenance for the safety purpose. **(10)**

OR

Describe briefly the main causes and types of failure of hydraulic structures.

Q.2 What are the causes of failure of embankment dam and the measures taken? **(10)**

OR

Describe the long time maintenance required for an embankment dam to keep efficient operation.

Q.3 Explain how quality of construction affects the safety of earthen dam and how maintenance affect the life of structure. **(10)**

OR

If you are the experienced engineer in charge of project, what are guidelines you can suggest for maintenance of energy dissipating structures of high dam.

SECTION – II

Q.4 What is the need for monitoring of instruments in concrete dam? **(10)**

OR

Explain the parameters and instruments required for monitoring the concrete dam.

Q.5 Explain the role and maintenance of hydraulic structures as a part of operation, inspection and monitoring. **(10)**

OR

Explain role of gates over spillway for monitoring the safety of the main dam during probable high floods in cloud bursting.

Q.6 Explain the probable loss and damage to either earth or concrete dam, if adequate periodic monitoring program is not executed. **(10)**

OR

Draw the sketch of position and location of various instruments/equipments required for monitoring of performance for any typical dam structure.

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