

- (v) Tidal power plants works in which type of topography?
- a. Hilly terrain                      b. Coastal areas  
c. Desert plains                      d. River basins
- (vi) Which type of head race tunnel is most economical and stable?
- a. Circular                              b. D-shaped  
c. Horse shoe shaped      d. None of the above
- (vii) In context with tunneling, the term "Q-value" is associated with which factor?
- a. Rock hardness                      b. Tunnel cross-section  
c. Tunnel slope  
d. Underground water outlets
- (viii) Penstock material can be of
- a. Steel                                      b. Concrete  
c. Fiber                                      d. All of above
- (ix) What is the position of surge shaft in any closed hydraulic structure containing reservoir, head race tunnel, penstock?
- a. At the end of the penstock  
b. At the intake structure of reservoirs  
c. Just before penstock starts  
d. Anywhere in the closed hydraulic structure
- (x) Hygrometer is a device used to measure
- a. Atmospheric pressure  
b. Humidity  
c. Evapotranspiration  
d. Irrigation water requirements.                      (10×2=20)

**M. Tech 3rd Semester Examination**

**Hydro Power Engineering**

**WRE-118**

**Time : 3 Hours**

**Max. Marks : 100**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Attempt five questions in all, selecting one question from each section A, B, C, D. Section E is compulsory.

**SECTION - A**

- Why it is necessary to predict the future load demand? What are the methods of load forecasting? (20)
- How can we predict the power potential of a stream? What are various construction practices to increase the power potential of stream? (20)

**SECTION - B**

- How can we classify hydropower plants? What are the various parameters of classification? Give details. (20)
- (a) What is submersible Power Station? Also draw a neat sketch. (15)  
(b) A 100MW reversible pump turbine has to work under the head of 400 m. Suggest a suitable specific speed and running speed for the machine. (5)

**[P.T.O.]**

