

MIZORAM PUBLIC SERVICE COMMISSION
DEPARTMENTAL EXAMINATIONS FOR
AE/SDO (CIVIL)
UNDER POWER & ELECTRICITY DEPARTMENT, NOVEMBER 2016

ENGINEERING PAPER – I

Time Allowed : 3 hours

FM : 100 PM : 40

Marks for each question is indicated against it.
Attempt all questions

1. Explain CPM/PERT, stating its advantages. (6)
2. Write short notes on: (2+2=4)
 - (a) Contingencies and supervision charges
 - (b) Work charge establishments
3. What is compaction? Write the objective of compaction? (4)
4. What are the methods of Stabilization of soil? (4)
5. Discuss the types of soil and classify them into cohesive and non-cohesive soils. (6)
6. Explain any four of the following: (8)
 - (a) moisture content of soil
 - (b) Elasticity of soil
 - (c) Capillary in soil
 - (d) Soil consistency
 - (e) Shrinkage limit
7. What are the two types of soil samples? Discuss their application in filed test. (4)
8. State the assumptions of Rankines Earth pressure theory. (4)
9. Discuss the components of steel roof truss. (4)
10. What is buckling of a compression member? (4)
11. What are the advantages of Steel Structures? (4)
12. Name two types of riveted or bolted joints. (4)
13. State failure of riveted joints. (4)
14. Discuss the environmental harm that a large hydel project could cause (5)
15. EIA can reduce the environment harm from a large dam project. discuss. (5)
16. Project authorities are required to submit Environmental Information to the ministry of environment and forest to obtain statutory clearness mandatory of hydel projects. Name and discuss all the required document to be placed before the environmental appraised committee. (5)
17. Where does the maximum value of bending moment in a simply supported beam subjected to an isolated concentrated load (W) occur? What is it's value? (2)
18. Where does the maximum value of bending moment in a simply supported beam subjected to a uniformly distributed load (W) per unit distance occur. What is its value? (2)

19. Why are I-beams economical as compared to rectangular section having depth greater than the breadth? (4)
20. What is soundness of cement? (3)
21. Discuss the two important setting time in cement hardening process. (4)
22. Mention 4 different types of retaining walls and discuss the working principal of each type. (8)
23. State the factor of safety to be maintained in design of a retaining wall. (2)

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