

MIZORAM PUBLIC SERVICE COMMISSION

**DEPARTMENTAL EXAMINATIONS FOR JUNIOR GRADE OF M.E.S. (AE/SDO)
UNDER PUBLIC WORKS DEPARTMENT,
GOVERNMENT OF MIZORAM, DECEMBER, 2019.**

MECHANICAL ENGINEERING PAPER – II

Time Allowed : 3 hours

FM : 100 PM : 40

The figures in the margin indicate full marks for the questions.

Attempt only 5 (five) questions.

1. (a) Compare brazing and gas welding. (3)
(b) Describe typical applications of soldering. (7)
(c) Explain the principle of metal arc welding process. (10)
2. (a) Define the following measurement related terms: Surface roughness, Accuracy and Precision. (10)
(b) Differentiate between measurement and gauging with reference to the application and method of use. (10)
3. (a) Describe the main components and application of planning machine. (10)
(b) Discuss various operations that could be performed on Lathe machine and Strapping machine. (10)
4. (a) Discuss the salient features on maintenance of diesel generating set. (10)
(b) Explain the necessity of cooling system in diesel engine. (10)
5. (a) What are the parameters for determining the quality of electric supply? Explain any one of them. (4+6=10)
(b) Discuss the importance of the design and planning of electrical installation. (10)
6. (a) Describe steps to be followed for the calculation of depreciated cost. (8)
(b) Give procedure to be followed for condemnation of old and unserviceable machinery and equipment. (12)
7. (a) Define the following terms related to air-conditioning and refrigeration: (4×2=8)
(i) Comfort air (ii) Evaporative cooling
(iii) Sensible heat (iv) Relative humidity
(b) Explain Central air-conditioning system and its applications with suitable sketches. (12)

* * * * *