

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

**Term-End Examination**

**June, 2019**

00542

**BME-058 : POWER PLANT ENGINEERING**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** Answer any **seven** questions. All questions carry equal marks.

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1. (a) Discuss the factors affecting the selection of a hydroelectric power plant. 8  
(b) What are the different types of "DAMS" used in hydroelectric power plants ? 2
2. (a) Define work ratio in the context of Rankine cycle. 2  
(b) Explain the Rankine cycle with the help of T-S and P-V diagrams. Write expression for efficiency. 8
3. Draw and explain the layout of a nuclear power plant. Briefly explain the function of each component. 10

4. (a) What is the function of moderator in a nuclear power plant ? 2
- (b) Discuss the advantages and disadvantages of nuclear power plant with respect to other power plants. 8
5. (a) Why is electricity the most convenient form of energy ? 2
- (b) Discuss the various performance parameters of power plants. 4
- (c) Define the diversity factor and plant use factor for a power plant. 4
6. What is regeneration ? How does regeneration improve the efficiency of a gas turbine power plant ? 10
7. Explain the layout of diesel power plant with the help of diagram. Also explain the component function used in diesel power plants. 10
8. (a) List out the major advantages of high pressure boilers in modern thermal power plants. 7
- (b) Discuss the function of economiser. 3
9. (a) Discuss the function of cooling tower. 3
- (b) With the help of neat diagram, explain the working of forced draft cooling tower. 7