

Code No: 127GP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech IV Year I Semester Examinations, February/March - 2022****POWER PLANT ENGINEERING****(Mechanical Engineering)****Time: 3 Hours****Max. Marks: 75****Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) Classify and explain the working of mechanical dust collectors.
- b) Draw the layout of a steam power plant and name each unit. [7+8]
- 2.a) What are problems caused by impurities in feed water in a boiler?
- b) What are the different types of cooling towers? Name them and analyze their properties. [7+8]
- 3.a) Do you think combined cycle power plants are superior than the open and closed cycle? Justify your answer.
- b) Explain the method used for supercharging the engine? [7+8]
- 4.a) Demonstrate there are various methods are available to improve thermal efficiency of gas turbine plant.
- b) How does a CRDI system work? Explain. [7+8]
- 5.a) With a neat sketch explaining the working of a hydro power plant, with their advantages and disadvantages.
- b) Differentiate between HAWT and VAWT with their working. [8+7]
- 6.a) What is the Hydrological cycle? Explain its significance in locating the site and design of hydro electric power plants.
- b) How solar collectors are used to produce energy? Explain. [8+7]
- 7.a) Enumerate the factors involved in selecting the materials for the various reactor components
- b) Explain in brief about radioactive waste disposal. [8+7]
- 8.a) Analyze the importance of a load curve and its significance in a plant.
- b) Discuss briefly about the various methods available to restrict industrial pollution. [7+8]

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