| | DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE | | | | | |
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| | Supplementary Examination – Summer 2022 | | | | | |
| | Course: B. Tech. Branch :Electrical Semester :IV | | | | | |
| | Subject Code & Name: Power Plant Engineering (BTEEE506-VB) | | | | | |
| | Max Marks: 60 Date: Duration: 3 Hi | • | | | | |
| | Instructions to the Students: All the questions are compulsory. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question. Use of non-programmable scientific calculators is allowed. Assume suitable data wherever necessary and mention it clearly. | | | | | |
| | | (Level/CO) | Marks | | | |
| Q.1 | Solve Any Two of the following. | | | | | |
| A) | Explain with diagram MHD plant | (CO1) | 6 | | | |
| B) | Explain the different types of sources for energy generation | (CO1) | 6 | | | |
| C) | Explain working principle of thermal power plant with diagram | (CO2) | 6 | | | |
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| Q.2 | Solve Any Two of the following. | | | | | |
| A) | Explain working principle of Nuclear power plant with diagram | (CO2) | 6 | | | |
| B) | What is alternator exciter & explain the excitation system. | (CO2) | 6 | | | |
| C) | Explain with diagram Pressurized water reactor(PWR) | (CO2) | 6 | | | |
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| Q. 3 | Solve Any Two of the following. | | | | | |
| A) | Explain advantages & disadvantages of hydro power plant | (CO3) | 6 | | | |
| B) | Classify different types of turbines | (CO3) | 6 | | | |
| C) | Write down the function of 1)Surge tank 2)Draft tube 3)penstock | (CO3) | 6 | | | |
| | | | | | | |
| Q.4 | Solve Any Two of the following. | | | | | |
| A) | Explain the layout of diesel engine power plant | (CO4) | 6 | | | |
| B) | Explain peak load & base load | (CO4) | 6 | | | |
| C) | A 60 MW power station has an annual peak load of 50 MW.The power | (CO4) | 6 | | | |
| | station supplies loads having maximum demand of | | | | | |
| | 20MW,17MW,10MW & 9MW. The annual load factor is 0.45. | | | | | |
| | Find: (i)Average load (ii)Energy supplied per year (iii)Diversity factor | | | | | |
| | | | | | | |
| Q. 5 | Solve Any Two of the following. | | | | | |
| A) | Explain different types of tariff | (CO5) | 6 | | | |
| B) | Discuss the economic loading of combined steam & hydro plants | (CO6) | 6 | | | |

| C) | An industrial undertaking has a connected load of 220 kW.The | (CO5) | 6 |
|------------|---|-------|---|
| | maximum demand is 180 kW.On an average each machine works for | | |
| | 60% time.Find the yearly expenditure on electricity if the tariff is: | | |
| | Rs.1200 + Rs.120 per kW of maximum demand per year + Rs. 0.15 per | | |
| | kWh. | | |
| | *** End *** | | |

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