

Code No: RR410304

RR

Set No. 2

IV B.Tech I Semester Examinations, December 2010
POWER PLANT ENGINEERING
Mechanical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. (a) What are fission fragments and fission products?
 (b) What is nuclear reactor? Describe the various parts of a nuclear reactor.
 (c) What are the main difficulties in handling radioactive waste? [4+6+6]
2. With a neat sketch explain the working of a simple constant pressure gas turbine. Mention its advantages and disadvantages. [16]
3. (a) What are the capital cost and fixed cost to be considered for cost analysis.
 (b) A power station has the installed capacity of 120 MW. Calculate the cost of generation, other data pertaining to power station are given
 Capital cost = Rs. 120×10^6
 Rate of interest and depreciation = 18 %
 Annual cost of fuel oil, salaries and taxation = Rs. 25×10^6
 Load factor = 40 % [6+10]
4. (a) Explain the working of a fuel cell.
 (b) What are the merit and demerits of fuel cell. [8+8]
5. (a) In what fields Diesel electric power plants are used?
 (b) What are the essential components of Diesel electric plants? Explain. [6+10]
6. Draw the line diagram of hydraulic ash handling system used for modern capacity plant? Discuss its merits with other systems? [16]
7. What are the various factors to be considered in selecting the site for a hydro electric power plant and discuss about primary and secondary investigations. [16]
8. (a) Describe "Zeolite water softening process" with a sketch.
 (b) Explain the importance of pH value to control corrosion phenomenon. [8+8]

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Set No. 4

IV B.Tech I Semester Examinations, December 2010
POWER PLANT ENGINEERING
Mechanical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Draw the line diagram of hydraulic ash handling system used for modern capacity plant? Discuss its merits with other systems? [16]
2. (a) Explain the working of a fuel cell.
(b) What are the merit and demerits of fuel cell. [8+8]
3. (a) Describe "Zeolite water softening process" with a sketch.
(b) Explain the importance of pH value to control corrosion phenomenon. [8+8]
4. With a neat sketch explain the working of a simple constant pressure gas turbine. Mention its advantages and disadvantages. [16]
5. (a) In what fields Diesel electric power plants are used?
(b) What are the essential components of Diesel electric plants? Explain. [6+10]
6. What are the various factors to be considered in selecting the site for a hydro electric power plant and discuss about primary and secondary investigations. [16]
7. (a) What are fission fragments and fission products?
(b) What is nuclear reactor? Describe the various parts of a nuclear reactor.
(c) What are the main difficulties in handling radioactive waste? [4+6+6]
8. (a) What are the capital cost and fixed cost to be considered for cost analysis.
(b) A power station has the installed capacity of 120 MW. Calculate the cost of generation, other data pertaining to power station are given
Capital cost = Rs. 120×10^6
Rate of interest and depreciation = 18 %
Annual cost of fuel oil, salaries and taxation = Rs. 25×10^6
Load factor = 40 % [6+10]

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Set No. 1

IV B.Tech I Semester Examinations, December 2010
POWER PLANT ENGINEERING
 Mechanical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. Draw the line diagram of hydraulic ash handling system used for modern capacity plant? Discuss its merits with other systems? [16]
2. (a) Explain the working of a fuel cell.
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 Annual cost of fuel oil, salaries and taxation = Rs. 25×10^6
 Load factor = 40 % [6+10]
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 (b) What is nuclear reactor? Describe the various parts of a nuclear reactor.
 (c) What are the main difficulties in handling radioactive waste? [4+6+6]
8. (a) Describe "Zeolite water softening process" with a sketch.
 (b) Explain the importance of pH value to control corrosion phenomenon. [8+8]

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Set No. 3

IV B.Tech I Semester Examinations, December 2010
POWER PLANT ENGINEERING
Mechanical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. With a neat sketch explain the working of a simple constant pressure gas turbine. Mention its advantages and disadvantages. [16]
2. (a) What are fission fragments and fission products?
 (b) What is nuclear reactor? Describe the various parts of a nuclear reactor.
 (c) What are the main difficulties in handling radioactive waste? [4+6+6]
3. (a) Explain the working of a fuel cell.
 (b) What are the merit and demerits of fuel cell. [8+8]
4. (a) What are the capital cost and fixed cost to be considered for cost analysis.
 (b) A power station has the installed capacity of 120 MW. Calculate the cost of generation, other data pertaining to power station are given
 Capital cost = Rs. 120×10^6
 Rate of interest and depreciation = 18 %
 Annual cost of fuel oil, salaries and taxation = Rs. 25×10^6
 Load factor = 40 % [6+10]
5. (a) Describe "Zeolite water softening process" with a sketch.
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6. Draw the line diagram of hydraulic ash handling system used for modern capacity plant? Discuss its merits with other systems? [16]
7. What are the various factors to be considered in selecting the site for a hydro electric power plant and discuss about primary and secondary investigations. [16]
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 (b) What are the essential components of Diesel electric plants? Explain. [6+10]
