

Roll No: -----



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: B. Tech. PSE
Subject (Course): Power Plant Maintenance Practice
Course Code : PSEG414
No. of page/s: 2

Semester – VII
Max. Marks : 100
Duration : 3 Hrs

SECTION-A

ATTEMPT ALL QUESTIONS

5x4=20 marks

Q. No.	CO	Question
1	CO 1	Prepare a list of routine maintenance works for thermal power plant turbine. Mention its monitoring frequency of routine maintenance.
2	CO3	Discuss the reasons for boiler failure.
3	CO2	Discuss the type of HP/ LP bypass valves routine maintenance procedures.
4	CO3	Discuss the routine maintenance activities of ash Slurry pump motor for ash evacuation to ash pond.
5	CO2	Explain the importance of the battery capacity. Discuss the various criterion of measuring battery capacity

SECTION B

ATTEMPT ALL QUESTIONS

4 X 10 =40 Marks

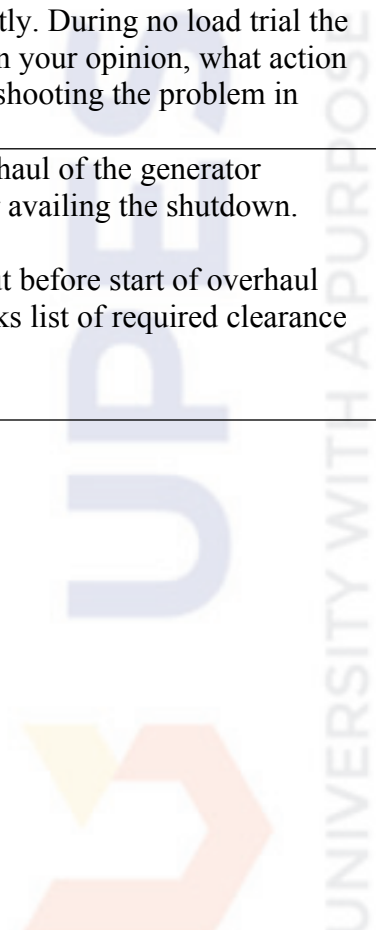
Q. No.	CO	Question
6	CO3	Discuss in detail the preparatory works to be taken up before the overhaul Maintenance of 210 MW turbines. OR Discuss the daily & weekly maintenance activities of the Station 220 Volts battery bank.
7	CO 3,4	The electrical maintenance department has completed overhaul of a PA motor of 210 MW power plants recently. The maintenance has replaced the cooling fan of the motor during overhaul because the engineer observed that the two fan blades are broken. During no load trial the engineer noticed that vibration are more. In your opinion, what action he should take. Discuss the entire process in detail

8	CO 1,3	Classify and explain the type of misalignments with the help of suitable diagrams. Which tools are required for the alignment?
9	CO 3	Write down the routine maintenance & shutdown maintenance works of Electrostatic precipitators taken up by the electrical maintenance section for 210 Mw Thermal sets. Also discuss the precautions to be taken during internal inspection of electrostatic precipitators.

SECTION C

ATTEMPT ALL QUESTIONS. Marks: 2 X 20=40

Q. No.	CO	Question
10	CO 3,4	The electrical maintenance department has completed overhaul of a boiler feed pump motor of 210 MW power plants recently. During no load trial the engineer noticed that oscillation in motor rotor. In your opinion, what action should be taken? Explain the method of trouble shooting the problem in detail
11	CO3 CO5	a) Discuss the criterion practiced for annual overhaul of the generator maintenance & the precautions & preparation for availing the shutdown. b) List out in detail, the activities to be carried out before start of overhaul works of the generator & Prepare the list of checks list of required clearance for giving clearance of the TS set generator.



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SECTION-A

ATTEMPT ALL QUESTIONS

Marks: 5x4=20

Q. No.	CO	Question
1	CO 3	Prepare a list of routine maintenance works for thermal power plant generator. Mention its monitoring duration of routine maintenance.
2	CO1	Write a short note on the reasons of Boiler failures.
3	CO3	Discuss the routine maintenance procedures for generator transformer.
4	CO3	Discuss the routine maintenance activities of DM make up pump motor for maintaining the DM water in the power plant.
5	CO2	Explain the routine maintenance works for the 48 Volt station battery system of a power plant.

SECTION B

ATTEMPT ALL QUESTIONS

4 X 10 =40

Marks

Q. No.	CO	Question
6	CO2	As an electrical maintenance engineer of a 210 MW thermal power plant, prepare the list of the works for over haul of the Unit board Panel also list out the coordination for the works by other maintenance department.
7	CO3	During routine maintenance of the slipping, the maintenance crew observed that carbon brushes replacement frequency has increased. Also the brushed flexible leads are getting broken frequently. Plan the activity to be taken up to encounter the problem.

8	CO 4,6	During routine maintenance of the slipping, the maintenance crew observed that carbon brushes replacement frequency has increased. Also the brushed flexible leads are getting broken frequently. Plan the activity to be taken up to encounter the problem.
9	CO3	Write down the routine maintenance & shutdown maintenance works of Electrostatic precipitators Supply board by the electrical maintenance section for 210 Mw Thermal sets. Also discuss the precautions to be taken during internal inspection of electrostatic precipitators. OR Discuss the precautions, preparation & procedures for the attending boiler tube leakages

SECTION C

ATTEMPT ALL QUESTIONS.

Marks: 2 X

20=40

Q. No.	CO	Question
10	CO 1,3	Classify and explain the type of misalignments with the help of suitable diagrams. Explain the method of correction of misalignment of a pedestal bearing motors. Which tools will be required for the alignment?
11	CO5 CO1 CO3	Discuss in detail the annual overhaul of the turbine with its all activities by turbine maintenance department and also mention the coordination with the other sections. OR a) Discuss the criterion practiced for annual overhaul of the generator. Its precautions & preparation for availing the shutdown. b) List out in detail, the activities / checks required after completion of overhaul works of the generator. c) Prepare the list of checks list of maintenance activities required for the circuit breaker overhaul of the TS set generator.