

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2021

Course: Power Plant Operation & Control

Semester: VIII

Program: B. Tech- PSE

Time 03 hrs.

Course Code: EPEG- 4006

Max. Marks: 100

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	With reference to operation of 'Steam Turbine and Turbine HP-LP Bypass System', give the full form of the following: 1) PRDS 2) MS-SV 3) CV 4) ESV 5) GCB	5	CO1
Q 2	With reference to 'Automatic Turbine Run-up System', give the full form of the following: 1) EHG 2) SGC 3) TSE 4) SLC 5) CI	5	CO2
Q 3	With reference to 'Turbine Oil System', give the full form of the following: 1) AOP 2) JOP 3) EOP 4) MOP 5) MOT	5	CO2
Q 4	For a good relay system, _____ and _____ are the two essential characteristic(s).	5	CO3
Q 5	On-load detection of 'Cooling Water leakage' inside the steam condenser is done by checking the _____ of the condensate.	5	CO1
Q 6	Operational Performance of a Coal Mill depends upon coal _____ and _____ factors.	5	CO2

SECTION B

Q 7	Enumerate at least four most important function(s) of the HP- Bypass system during Steam Turbine Operation.	10	CO3
Q 8	Explain the methods adopted for controlling the cycle water quality during the operation of the Thermal Power Plant having Condensing Turbine.	10	CO4

Q 9	Enumerate the conditions for Steam Turbine Cold Start-up, Warm Start-up & Hot Start-up along with corresponding metal temperature & Turbine running condition.	10	CO2
Q 10	Explain the function of 'Oil Pressure Drop Relay (OPDR) used in the 'Turbine Oil System' along with its operating parameters.	10	CO3
Q 11	(A) Forced Draft Cooling Tower (FDCT) is more appropriate for a co-generation plant having a fertilizer plant as the secondary process. Explain why. OR (B) Induced Draft Cooling Tower (IDCT) is more appropriate for a co-generation plant having a Sugar Mill as the secondary process. Explain why.	10	CO3
SECTION-C			
Q 12	(A) Enumerate at least four steps followed during Turbine Start-up from 'Cold Condition'. OR (B) Enumerate at least four operational condition and their respective corrective action adopted during Boiler drum level fluctuation.	20	CO4