A **Reg. No. :** | | | | | | | | | | |

Question Paper Code : 53304

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Third Semester

Electrical and Electronics Engineering

15UEE304- POWER SYSTEM GENERATION

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The efficiency of a thermal power plant improves with CO1- R

   (a) Increased quantity of coal burnt (b) Larger quantity of water used

   (c) Lower load in the plant (d) Use of high steam pressures

2. Steam pressures usually used in thermal power plants are CO1- R

   (a) 5 kg/cm^2 to 10 kg / cm^2 (b) 50 kg/cm^2 to 100 kg / cm^2

   (c) 110 kg/cm^2 to 170 kg / cm^2 (d) 200 kg/cm^2 to 215 kg / cm^2

3. High output diesel engines are started by CO2- R

   (a) Self-starter (b) Compressed air (c) Battery (d) Cranking

4. The temperature of the cooling water leaving the diesel engine should not exceed. CO2- R

   (a) 25 °C (b) 40 °C (c) 85 °C (d) 20 °C

5. Reflectors of nuclear reactors are made of_____ CO3- R

   (a) Boron (b) Beryllium (c) Cast iron (d) Steel

6. The nuclear energy is measured as_____ CO3- R

   (a) MeV (b) MW (c) Curie (d) None of these

7. The efficiency of the solar cell is about CO4- R

   (a) 25 % (b) 15 % (c) 40 % (d) 60 %

8. The current density of a photo voltaic cell ranges from CO4- R

(a) 10 – 20 mA/cm^2 (b) 40 – 50 mA/cm^2 (c) 20 – 40 mA/cm^2 (d) 60–80 mA/cm^2

9. Which tariff is most ideal tariff for the consumer? CO5- R

(a) Two part tariff (b) Three part tariff (c) four part tariff (d) None of these

10. Which among these plants are most efficient? CO5- R

(a) Open cycle (b) Combined cycle (c) Closed cycle (d) None of these

PART – B (5 x 2= 10 Marks)

11. Define Binary cycle. CO1- R

12. What do you mean by regeneration in gas turbine power plant? CO2- R

13. What are the advantages of gas cooled reactor nuclear power plant? CO3- R

14. Why is a tall tower essential for mounting a horizontal axis wind turbine? CO4- R

15. What is the main objective of tariff? CO5- R

PART – C (5 x 16= 80 Marks)

16. (a) Explain various processes involved in coal and ash handling with neat sketch. CO1-U (16)

Or

(b) Discuss in detail about the various type of condenser used in thermal power plant. CO1-U (16)

17. (a) Explain in detail about integrated gasifier based combined cycle systems. CO2-U (16)

Or

(b) Explain the essential components of gas turbine power plant and explain the types of gas turbine powerplant. CO2-U (16)

18. (a) Draw and explain the Liquid metal cooled nuclear reactor? What is the safety Measures carried out in Nuclear Power Plant? CO3-U (16)

Or

(b) Draw and explain construction and working principle of Boiling Water Reactor (BWR)? CO3-U (16)

19.	(a)	Explain with a neat sketch the working principle of Geothermal Power plant.What are the advantages and disadvantages of Geothermal energy?	CO4- Ana	(16)
		Or		
	(b)	Draw the Layout diagram of Hydroelectric Power Plant and also explain the components and working of Hydroelectric power plant?	CO4- Ana	(16)
20.	(a)	Explain in detail about the tariff and also discuss the different types of tariff.	CO5-U	(16)
		Or		
	(b)	Explain different methods of nuclear waste disposal.	CO5 U	(16)

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