Sanjay Ghodawat University, Kolhapur   2018-19

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017   EXM/P/09/01

Year and Program:2018-19   **School of Technology**   **Department of Electrical Engineering**
FY M.Tech

Course Code: ELE 5103   **Course Title: Energy Management** **Semester – 11**
& Audit

Day and Date Wednesday   **End Semester Examination (ESE)**   **Time:**   **Max Marks: 100**
29/5/2019   2.30 to 5.30 pm.

Instructions: 1) All questions are compulsory.
2) Assume suitable data wherever necessary.
3) Figures to the right indicate full marks.

			Marks	Bloom's Level	CO
Q.1		**Solve any Two**			
	a)	Discuss Global energy scenario and also explain energy economic relation in details.	07	L_3	CO1
	b)	Estimate the different energy sources available to extract electrical energy also explain effectiveness of energy utilization in industry?	08	L_4	CO2
		OR			
	b)	Discuss in details how to extract electrical Energy from food waste in details with relevant block diagram.	08	L_4	CO2
Q.2		**Solve any Two**			
	a)	Conclude utility rate structure and cost loss evaluation of electricity in details?	07	L_4	CO3
	b)	With help of block diagram explain energy planning flow for supply side.	08	L_4	CO4
		OR			
	b)	Design and describe energy audit process conducted for textile industry?	08	L_6	CO4
Q.3		**Solve any Two**			
	a)	Discuss energy management and control systems for demand side related to commercial consumer.	08	L_4	CO1

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b)	Evaluate the different energy policy of a demand side organization which is benefit to energy consumer?	08	L_4	CO2
c)	Discuss in detail objectives of energy management in details required for energy audit?	08	L_4	CO3
d)	Interpriate discussions with Line supervisors and observations during walk through energy audit report?	08	L_5	CO4

Q.4   **Solve any Two**

a)	Clarify the importance of proper measurement and monitoring system during energy audit	09	L_4	CO5
b)	Discuss in details the role of electrical maintenance for improving efficiency of machines and its effect on energy management.	09	L_4	CO5
c)	Compile in details Remote telemetry system and protocol standards for it.	09	L_5	CO5

Q.5   **Solve any Two**

a)	Discuss in details data acquisition procedures also explain data handling in details?	09	L_5	CO6
b)	Discuss Supervisory remote control required for load dispatch centres in details.	09	L_4	CO6
c)	Evaluate in details importance of distribution control centers required for time keeping systems.	09	L_5	CO6

Q.6   **Solve any Three**

a)	Explain in detail DC to AC Converters in details connected in power grid applications.	06	L_5	CO5
b)	Illustrate design of AC to AC Converters required for grid systems	06	L_4	CO5
c)	Discuss the converse effect of Electrical vehicle on energy management.	06	L_5	CO6
d)	Discuss the concept of Microgrid and hence explain energy storage technologies in details?	06	L_5	CO6