KUMARAGURU college of technology
character is life

Register Number:……..…

M.E DEGREE EXAMINATIONS: DEC 2015

(Regulation 2014)

Third Semester

ENERGY ENGINEERING

P14EET42: Energy Management

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. The descending order of power generation share from the following is CO1 [K1]

   1. Hydro 2. Nuclear 3. Gas 4.Coal

   a) 1-2-3-4 b) 2-3-4-1

   c) 4-1-3-2 d) 4-2-3-1

2. The share of hydropower out of the installed capacity of power plants is CO1 [K1]

   a) 50% b) 35%

   c) 40% d) 25%

3. By 2100 AD, the trend of energy consumption reveals that CO2 [K1]

   1.Hydro-electric energy consumption will decrease
   2.Nuclear fusion energy consumption will decrease
   3.Gas consumption will decrease
   Choose the incorrect statements from the above?

   a) 1,2 b) 1,3

   c) 2,3 d) 1,2,3

4. Matching type item with multiple choice code CO2 [K_1]

List I	List II
A.Commercial Energy	i.Wood
B.Primary Energy	ii.Natural Gas
C. Non-Commercial Energy	iii.Electricity
D.End Use Energy	iv.Biomass

Codes:

	A	B	C	D
(a)	ii	i	iv	iii
(b)	i	ii	iv	iii
(c)	ii	i	iii	iv
(d)	i	ii	iii	iv

a) a b) c

c) b d) d

5. Choose the correct statements from the following CO 3 [K1]
i) Most carbon is in Ocean
ii) Most Carbon is in Rock
iii) Three times carbon is in soil than in plants

a) i,ii b) i,iii

c) i,ii, iii d) ii,iii

6. Choose the correct sentence from the following CO 3 [K1]
i)Human will be the threat to the Eco-system
ii)Without human , the ecosystem is possible
iii)Other living beings except human protect the Eco-system

a) i,ii b) i,ii,iii

c) i,iii d) ii,iii

7. The following item consists of two statements, one labeled as the "Assertion (A)" and the other as "Reason (R). You are to examine those two statements carefully and select the answers to these items using the codes given below: CO 4 [K1]
Codes:
a.both A and R are individually true and R is the correct explanation of A
b.both A and R are individually true but R is not the correct explanation of A
c.A is true but R is false
d.A is false but R is true
Assertion (A): Cooling tower performance inversely depends upon size
Reason (R) : Performance of cooling tower directly depends upon entering air WBT

a) a b) b

c) c d) d

8. The equipments available in the cement plants are CO4 [K1]
i)kiln ii) Raw mill iii) cement mill iv) lime stone crusher

a) ii-i-iii-iv b) i-ii-iii-iv

c) iii-iv-i-ii d) iv-ii-i-iii

9. Geothermal energy reservoirs are CO5 [K1]
i) Liquid dominated reservoirs
ii) Steam dominated reservoirs
iii) Hot rocks with no water

a) i ,ii b) ii, iii

c) i,ii, iii d) i,iv

10. In MHD generator ,as combustion temperature increases CO5 [K5]

a) Electrical conductivity increases
b) Hall parameter increases
c) Electrical conductivity and hall parameter increase
d) Electrical conductivity and hall parameter decreases

PART B (10 x 2 = 20 Marks)

11.	List the stages of energy management and energy planning	CO1	[K2]
12.	What are the limitations of nuclear energy	CO1	[K1]
13.	Classify the forecasting techniques in energy management	CO2	[K2]
14.	Why the optimization of energy sources are needed?	CO2	[K2]
15.	What is significance of Bio-geo–chemical cycle?	CO3	[K2]
16.	Spell out the social impact of carbon cycle?	CO3	[K2]
17.	Draw the block diagram of petroleum refinery and label the parts	CO4	[K2]
18.	What the process sequence in the food industry?	CO4	[K2]
19.	Outline the economics of solar power plants	CO5	[K2]
20.	Mention the limitations of fuel cells	CO5	[K2]

PART C (6 x 5 = 30 Marks)

21.	Give an account of supply and demand of energy sources	CO1	[K2]
22.	Compare the top down and bottom up energy modeling	CO2	[K2]
23.	Discuss the pattern of energy consumption in developing countries	CO3	[K2]
24.	Illustrate the energy conservation for a paper industry	CO4	[K3]
25.	Explain the energy conservation technique in cooling tower	CO4	[K_2]
26.	Describe wind power production analysis for a corporate	CO5	[K2]

PART D (4 x 10 = 40 Marks)

27.	Discuss the energy requirements, conservation needs and issues for a city like Coimbatore	CO1	[K3]

28.	Illustrate carbon cycle considering the society, population and technology	CO3	[K3]
29.	Describe energy conservation optimization technique for a chemical Industry	CO4	[K3]
30.	Describe the production analysis of MHD power plant	CO5	[K3]

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