VIGNAN'S INSTITUTE OF INFORMATION TECHNOLOGY
Question Bank 2nd MID PORTION
(2019 BATCH) IV B.Tech- II Semester (VR19), April 2024

Name of the Subject: Green Engineering Systems

Subject Code: 1003194251 No of Units: 2.5

Name of the Faculty: Dr. Brajesh Kumar Designation: Associate Professor

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Please follow the difficulty level while preparing the question paper:

UNIT	Difficulty Level	No. of Questions	
		Essay Type	Short Answer Type
3	LEVEL – 1 (Easy) – 25 % LEVEL – 2 (Average) – 50 % LEVEL – 3 (Difficult) – 25 %	4	10
4		8	20
5		8	20

UNIT – III

Q. No	Descriptive Questions	Level of Bloom Taxnomy	CO	marks (4 M)
1	Explain the construction and working of open cycle OTEC plant.	L2	2	4
2	Discuss different systems used for generating the power using geothermal energy, in brief.	L3	2	4
3	Explain with simple sketch how wave energy conversion systems be used for power generation.	L1	2	4
4	Explain with a simple sketch the basic principle of tidal power generation.	L2	2	4
Q. No	**Short Answer Questions**	**Level of Bloom Taxnomy**	**CO**	**marks (2 M)**
1	Discuss in brief on wave energy.	L1	2	2
2	Discuss the classification of geothermal energy resources.	L2	2	2
3	Explain significance of bio-fouling in OTEC plants.	L3	2	2
4	Explain the working principle of open cycle OTEC plant.	L3	2	2
5	State the limitations of OTEC system.	L2	2	2
6	Discuss in brief on tidal energy.	L2	2	2

7	Discuss in brief on geothermal energy.	L2	2	2
8	Discuss in brief on small hydro convection system.	L2	2	2
9	Write short notes on pumped hydroelectric storage.	L2	2	2
10	Write short notes on small hydro power plant.	L1	2	2

UNIT - IV

Q. No	Descriptive Questions	Level of Bloom Taxnomy	CO	marks (5 M)
1	What is the role of energy-efficient compressors and pumps in energy-efficient systems? Explain.	L3	3	5
2	Explain why centrifugal machines offer the greatest savings when used with variable speed drives?	L3	3	5
3	Discuss about energy efficient motors.	L1	3	5
4	Explain the working of fuel cells and write their advantages.	L2	3	5
5	Explain why variable torque loads offer great energy savings?	L3	3	5
6	Explain the classification of fuel cells based on the type of electrolyte.	L2	3	5
7	Explain with a simple sketch, construction and working of molten carbonate fuel cell.	L2	3	5
8	What are the relative advantages of advanced joining techniques over conventional techniques?	L1	3	5
Q. No	**Short Answer Questions**	**Level of Bloom Taxnomy**	**CO**	**marks (2 M)**
1	Discuss variable frequency devices?	L3	3	2
2	Discuss zero work manufacturing?	L1	3	2
3	Write short notes on energy efficient compressors.	L2	3	2
4	Write short notes on energy efficient pumps.	L2	3	2
5	What is the need for vegetable-based cutting fluids?	L2	3	2
6	Discuss the variable frequency devices?	L2	3	2
7	Discuss about energy efficient lighting and control.	L1	3	2
8	Explain the concept of zero waste manufacturing.	L2	3	2
9	What are the challenges in implementing zero waste manufacturing concept?	L1	3	2
10	Discuss about the environmental impact of current manufacturing systems.	L1	3	2
11	Explain how alternate casting and joining techniques improve efficiency?	L3	3	2
12	Write short notes on compressed air storage.	L2	3	2

13	Write short notes on different lighting technologies.	L2	3	2
14	Discuss about adjustable speed drives.	L3	3	2
15	Discuss about alternate joining techniques.	L3	3	2

UNIT - V

Q. No	Descriptive Questions	Level of Bloom Taxnomy	CO	marks (5 M)
1	List the factors which involve in the selection of environmentally friendly materials in manufacturing.	L1	4	5
2	Explain the role of bamboo, timber and lime pozzolan cement in the construction of green buildings.	L3	4	5
3	Explain the role of sustainable methods in the planning of sites for green buildings.	L1	4	5
4	What are the basic mechanical properties considered while selection of environmentally friendly materials?	L2	4	5
5	Explain the different sustainable practices used in the planning of green buildings for mass comfort.	L3	4	5
6	Discuss about effective energy management.	L2	4	5
7	Explain how selective paints can reduce heat gain in buildings.	L2	4	5
8	Explain the significance of solar power in green buildings.	L2	4	5
Q. No	**Short Answer Questions**	**Level of Bloom Taxnomy**	**CO**	**marks (2 M)**
1	Discuss Carbon neutral?	L1	4	2
2	Discuss green buildings?	L1	4	2
3	Discuss Ferro cement?	L3	4	2
4	Discuss the lime pozzolana cement?	L3	4	2
5	What do you understand by green manufacturing systems?	L2	4	2
6	Discuss the benefits of green manufacturing systems.	L2	4	2
7	Explain the role of hollow blocks and agro materials in the construction of green buildings.	L2	4	2
8	Write a sort note on zero waste management?	L2	4	2
9	Write advantages of Ferro concrete.	L3	4	2
10	Discuss the benefits of green manufacturing?	L1	4	2

11	Explain about alternate roofing system.	L3	4	2
12	Discuss the aims and scopes of demand site management.	L2	4	2
13	Discuss about Argo waste and industrial waste.	L1	4	2
14	Discuss different environment-friendly materials used in green buildings.	L2	4	2
15	Discuss the features of green buildings.	L2	4	2

Signature of faculty **Signature of the HoD**