STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86
(For candidates admitted during the academic year 2023 – 2024)

B.Voc. DEGREE EXAMINATION - NOVEMBER 2024
SUSTAINABLE ENERGY MANAGEMENT
THIRD SEMESTER

COURSE : MAJOR CORE
PAPER : BIO ENERGY
SUBJECT CODE : 23VS/VM/BE36
TIME : 6 HOURS **MAX. MARKS: 100**
(Theory: 50 Marks + Practical: 50 Marks)

Q. No.	SECTION – A Answer all questions: (5 x 2 = 10)	CO	KL
1	List out agricultural waste used for bioconversion.	1	1
2	Define biomass.	1	1
3	Name the aquatic biomass.	1	1
4	Define biofuel.	1	1
5	List the types of biogas plants.	1	1
Q. No.	**SECTION – B** **Answer all questions: (4 x 3 = 12)**	**CO**	**KL**
6	(a) Relate the significance of biomass energy. **(or)** (b) Discuss incineration process.	2 2	2 2
7	(a) Restate landfill gas. **(or)** (b) Write the composition of landfill gas.	2 2	2 2
8	(a) Show the pyrolysis process. **(or)** (b) Apply liquefaction process.	3 3	3 3
9	(a) Present PRAGATI model of biogas plant. **(or)** (b)Explain the advantages of fixed dome biogas plant.	3 3	3 3
Q. No.	**SECTION – C** **Answer all questions: (2 x 4 = 8)**	**CO**	**KL**
10	(a) Distinguish between proximate and ultimate analysis. **(or)** (b) Compare the merits and demerits of incineration process.	4 4	4 4
11	(a) Write the applications of landfill gas. **(or)** (b) Differentiate between electrochemical and thermochemical techniques of biomass conversion.	4 4	4 4

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Q. No.	SECTION – D Answer all questions: (4 x 5 = 20)	CO	KL
12	(a) Evaluate the different biomass resources. **(or)** (b) Select the fermentation process used in biogas plants and elaborate on it.	5 5	5 5
13	(a) Estimate the factors affecting biogas production. **(or)** (b) Evaluate algae and water hyacinth biomass.	5 5	5 5
14	(a) Propose the KVIC biogas plant model and add on its advantages. **(or)** (b) Construct fibre glass reinforced biogas plant model.	5 5	6 6
15	(a) Plan out the processing of wood waste for incineration plant. **(or)** (b) Design the incineration process from urban waste to energy.	5 5	6 6

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