

NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch: B.E/EEE	Year / Semester : IV/VII	Format No.	NAC/TLP-07a.13
Subject Code : EE8703	Subject Name : Renewable Energy Sources	Rev. No.	02
Unit No : 4	Unit Name : Biomass Energy	Date	30/09/20

OBJECTIVE TYPE QUESTION BANK

S.NO	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1.	1. When is the power density of the absorbing surface equal to the incident sunlight? a) Absorbing surface and incident sunlight are perpendicular to each other b) Absorbing surface and incident sunlight are parallel to each other c) Absorbing surface and incident sunlight are inclined at an acute angle to each other d) Absorbing surface and incident sunlight are inclined at an obtuse angle to each other	L1
2.	What is diffused solar radiation? a) Sum of direct and reflected radiation energies b) Radiation reflected from an obstacle c) Radiation traveling on a straight line from sun to earth d) Radiation scattered by molecules	L1
3.	When is the power density of the absorbing surface equal to the incident sunlight? a) Absorbing surface and incident sunlight are perpendicular to each other b) Absorbing surface and incident sunlight are parallel to each other c) Absorbing surface and incident sunlight are inclined at an acute angle to each other d) Absorbing surface and incident sunlight are inclined at an obtuse angle to each other	L2
4.	Which of the following is tried to maximized in tilted receivers (panels)? a) Direct radiation b) Diffused radiation c) Reflected radiation d) Diffracted radiation	L1
5.	What is the primary product of photosynthesis? a) Glucose b) Oxygen c) Water d) Carbon dioxide	L2
6.	What is the condensation reaction responsible for in the process of photosynthesis? a) Electron transfer	L1

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	b) Splitting out water molecules c) Splitting out water molecules and phosphorylation d) Electron transfer and phosphorylation	
7.	What is biomass? a) Organic materials from living organisms b) Inorganic materials from living organisms c) Inorganic materials from non-living organisms d) Organic materials from non-living organisms	L2
8.	_____ is an example of cellulosic biomass. a) Glucose b) Fats c) Lipids d) Agricultural residue	L2
9.	What is cellulose made up of? a) Polysaccharide b) Steel c) Carbon nano fibre d) Silicon	L1
10.	Why does burning biomass not add to greenhouse gas emissions? a) Because it is a clean source b) Because it absorbs greenhouse gases to burn c) Because it releases the same amount of greenhouses gas as burning fossil fuel does d) Because it releases greenhouse gas that was captured and converted into other forms during its growth	L1
11.	Which of the following can be classified under solid biomass? a) Agricultural residues b) Waste water c) Industrial effluents into rivers d) Plastic	L1
12.	Which of the following are examples of lipids? a) Sugar b) Palm oil c) Glucose d) Cellulose	L1
13.	Which of the following technologies are used to convert biomass into useful energy	L2

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	forms? a) Bio-chemical process b) Galvanization c) Doping d) Photoelectric effect	
14.	Which of the following is an example of physio-chemical conversion technique to convert biomass into usable forms of energy? a) Pyrolysis b) Gasification c) Anaerobic Digestion d) Extraction with esterification	L1
15.	What are the two main products of anaerobic digestion? a) Biogas and bio-fertilizer b) Waste water c) Producer gas d) Syngas	L1
16.	Which of the following are used to store manure? a) Silos and cellars b) Plastic bottles c) Glass bottles d) Tin cans	L1
17.	What is unique about the gasification agent entering in a fluidized gasifier? a) Enters from bottom at a relatively fast rate as compared to a fixed bed gasifier b) Enters from bottom at a relatively slow rate as compared to a fixed bed gasifier c) Enters from top at a relatively fast rate as compared to a fixed bed gasifier d) Enters from top at a relatively slow rate as compared to a fixed bed gasifier	L2
18.	What is the biomass decomposed to in a bubbly fluidized bed? a) Producer gas b) Char and gas products with a low tar percentage c) Char and gas products with a high tar percentage d) Char with a low tar percentage	L1
19.	Which of the following is a product of biomass gasification? a) Hydrogen b) Steel c) Carbon (solid) d) Iron	L1

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20.	What are the three main types of gasifiers? a) Fixed bed, hydrothermal liquefaction and carbonisation b) Fixed bed, fluidized gasifiers and carbonisation c) Carbonisation, liquefaction and entrained flow gasifiers d) Fixed bed, fluidized gasifiers and entrained flow gasifiers	L2
21.	Which of the following is a substrate for biogas production? a) Municipal and residential waste b) E-waste c) Metallic waste d) Gaseous effluents	L1
22.	Which of the following best indicates the steps of anaerobic digestion? a) Waste water feed → biogas storage → generator → biogas b) Waste water feed → digester → biogas → biogas storage → generator c) Generator → waste water feed → digester → biogas → biogas storage d) Waste water feed → biogas → digester → biogas storage → generator	L2
23.	Which of the following is not a renewable source of energy? a) Fossil fuels b) Sun c) Biomass d) Wind	L1
24.	What is a solar collector? a) A device that generates current b) A device that collects and stores sunlight c) A device that collects and concentrates sunlight d) A device that filters sunlight	L1
25.	. What is the increase in temperature per kilometer starting from the crust? a) 15 degree Celsius b) 17 – 30 degree Celsius c) 100 degree Celsius d) 50 – 87 degree Celsius	L1
26.	Which of the following countries hosts the largest geothermal field? a) Iran b) Italy c) Australia d) United States	L1
27.	What are the forms of geothermal energy?	L2

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	a) Liquid and solid b) Liquid and vapour c) Solid and Bose-Einstein condensate d) Plasma and liquid	
28.	Which of the following is a type of high temperature geothermal resource? a) Dry steam b) Dry water c) Wet steam d) Water	L1
29.	Which of the following is a problem with a geothermal resource? a) Noise pollution b) Low greenhouse gas emission c) Polluting water d) Reversing damage to wildlife habitat	L2
30.	What is the estimated potential for geothermal energy in India? a) 1000MW b) 1MW c) 10000MW d) 100MW	L1

