Enrollment No:___ Seat No:__

PARUL UNIVERSITY **COLLEGE OF AGRICULTURE**

B.Sc. (Hons.) Agriculture Summer 2018 - 19 Examination

Date: 10/04/2019 Semester: 4

Time: 10:30 AM to 01:00 PM **Subject Code : 20106252**

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Subje	ct Name: Renewable Energy & Green	n Technology Total Marks: 50			
Instru					
	juestions are compulsory.				
_	res to the right indicate full marks.				
	e suitable assumptions wherever necessary new question on new page.	· .			
T. Start	new question on new page.				
Q.1	Do as Directed.				
A.					
1	· · · · · · · · · · · · · · · · · · ·				
	residues with a bulk density of Kg/m ³ .				
2	Floating dome type biogas plant is named as type of biogas plant also.				
3	kcal/m ³	clean burning fuel having heating value of about			
4	Biogas generally contains				
5	5 The conversion of biomass to heat and power by directly burning it, is called				
6	process.	dung and water is for inlet feed clurry			
7					
8					
	biogas.				
9	Biomass based producer gas is contain H ₂ (Hydrogen).	ined CO (carbon monoxide) and			
10	For producing 1 m ³ biogas	kg of cow dung is required.			
В.	Multiple choice type questions. (Ea		(10)		
	reactific choice type questions. (Euch of oil marks)				
	1. What is one example of Biomass?				
	a) Electricity	c) Wind			
	b) Trees	d) Water			
	2. Common energy source in Indian v	<u> </u>			
	a) Electricity	c) Wood and animal dung			
	b) Coal	d) Sun			
	3. A natural resource that can be repused is known a	placed in same rate at which it is consumed or			
	a) Natural Resources	c) Renewable Resources			
	b) Artificial Resources	d) Non-renewable Resources			
	4. Both power and manure is provide				
	a) Nuclear plants	c) Thermal plants			
	b) Biogas plants	(d) Hydroelectric plant			
	5. 1 kg fresh cow dung produces	_			
	a) 0.08 m^3	c) 0.02 m^3			
	b) 0.1 m ³	d) 0.04 m^3			
	6. Horizontal axis and vertical axis are the types of				
	a) Nuclear reactor	c) Biogas reactor			
	b) Wind mills	d) Solar cell			
	,	ship digestion, the carbon to nitrogen (C:N)			
	7. For optimum condition for anaerobic digestion, the carbon to nitrogen (C:N) ratio is to be in range of for better production of biogas plants				
	a) 10 to 20:1b) 20 to 30:1	c) 05 t0 10:1 d) 30 to 40:1			
	U) 40 tO 30.1	u) 50 to 40.1			

8. The most abundantly available fossil fuel in	1 India 18				
a) Petroleumb) Oil	c) Natural Gasd) Coal				
9. The total solid contains in fresh cow dung is					
a) 18-20%	c) 24 to 25%				
b) 20-22%	d) 12 to 14%				
10. Which of the following non-renewable energy is not classified under a fossil fuel?					
a) Petroleum	c) Natural gas				
b) Nuclear	d) Oil				
11. Which among the following have a large a renewable power capacity in India?	amount of installed grid interactive				
a) Solar power	c) Biomass power				
b) Wind power	d) Small Hydro power				
12. The major non-renewable energy usage in	India is				
a) Coal	c) Natural gas				
b) Petroleum and other liquids	d) Nuclear				
13 type of biogas plant has non-co	orrosion trouble				
a) Floating dome type	c) KVIC type				
b) Fixed dome type	d) All of above				
14. How is geothermal energy harvested? (How	v do we get it?)				
a) Solar panels collect the sunlight.	c) We pump it from the earth and refine it into gasoline.				
b) The heat from the earth boils water to create steam.	d) Not any one from above				
15. A Solar cell is an electrical device that converts the energy of light directly into electricity by the					
a) Atmospheric effect	c) Chemical effect				
b) Physical effect	d) Photovoltaic effect				
16. What is one disadvantage of renewable energy	rgy?				
 a) Electricity and power could become much cheaper. 	 c) Third world countries could have affordable energy. 				
 b) Many people could become energy independent. 	 d) Most sources are expensive to get started. 				
17. Wind is a					
a) natural but non-renewable resource	c) natural and renewable resource				
b) artificial and non-renewable resource	d). artificial but renewable resource				
18. What is one disadvantage of coal?					
 a) There isn't a lot of coal left which makes it expensive. 	 You can only use it to roast hot dogs and cook hamburgers. 				
b) Coal produces air pollution.	d) The world isn't using a lot of coal which makes it an undesirable job.				
19. The main composition of biogas is					
a) Methane	c) Nitrogen				
b) Carbon dioxide	d) Hydrogen				
20. Which example is NOT a renewable resource?					
a) Wind	c) Biomass				
b) Solar	d) Uranium (Nuclear)				

Q.2 Do as Directed.

	3. Wind mill or wind turbine:4. Define Digestion process in biogas plant5. Briquetting6. Pyrolysis	
	7. Define Solar cell {photovoltaic (PV)}	
В	1. State the use of Briquettes	(05)
Q.3	 State the different stages of Biogas production Write unit operations of Briquetting Process State the function of energizer in solar fencing system Difference between Briquetting and Pelleting State any three factors effect on biogas production State the function of Central Guide Frame in KVIC type biogas plant Write short notes. (Any five) Types of wind mills Describe working of solar water pumping system Factors Affecting Densification / Briquetting State the advantages of digested slurry derived from biogas plat 	(10)
	5. Biomass briquetting technologies	
	6. Explain classification of Energy sources	
Q.4	 7. The advantages of gasifier are Attempt any Three / Long Questions / Example 1. State different components of Wind turbine and its function 	(15)
	2. Explain Downdraft Gasifier (Co-current)3. Explain in details the Comparison between KVIC type and Janata type biogas plants	
	4. Explain different components of BIOGAS PLANT AND ITS Function5. State the different components of solar fencing with their specific functions	

Biogas
 Gasifiers