SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
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QUESTION BANK (DESCRIPTIVE)

Subject with Code : AIBU (16AG711) **Course & Branch**: B.Tech – AG

Year & Sem: III-B.Tech & II-Sem **Regulation:** R16

UNIT-I

1.	**a.**	Define agro industries and what are the factors responsible for establishment?	**6M**
	b.	What are the characteristics of rice husk?	**3M**
	c.	Write the uses of amorphous silica and what are the different grades of silicon?	**3M**
2.	**a.**	Write the composition of rice husk.	**2M**
	b.	What are the uses of rice husk?	**7M**
	c.	Draw the structure of rice husk silica.	**3M**
3.	**a.**	What are the raw materials used for ethanol fermentation?	**3M**
	b.	Write the production of ethyl alcohol by SSF process.	**9M**
4.	**a.**	Write about furfural and its chemistry.	**6M**
	b.	Write the different chemical products synthesized from furfural.	**6M**
5.	**a.**	Write the production of furfural and xylose from corn cobs.	**9M**
	b.	Write the synthesis of furfural.	**3M**
6.	**a.**	Write about the production of furfural through RRL process.	**8M**
	b.	Explain about the edible copra.	**4M**
7.	**a.**	Explain milling of copra.	**7M**
	b.	Briefly explain the oil milling of coconuts.	**5M**
8.	**a.**	How do you determine the chemical composition of silica?	**2M**
	b.	Write about the production of silica and silicon.	**6M**
	c.	Write about the quality of copra and oil.	**4M**
9.	**a.**	Write about the properties of furfural.	**4M**
	b.	Draw the structure of furfural, furan, furfuryl alcohol and tetra hydro furan	**8M**
10.	**a.**	Briefly write about the rice husk.	**7M**
	b.	Write about the alcoholic fermentation from rice husk.	**5M**

UNIT-II

1.	Explain about the desiccated coconut and toddy production.	**12M**
2.	**a.** Write about the production of coir.	**8M**
	b. What are the different uses of coconut shells?	**4M**
3.	**a.** Write about the mango flour.	**6M**
	b. Write about the banana stem candy.	**6M**
4.	Write about the processing of cashew nuts.	**12M**
5.	Explain about the cashew products.	**12M**
6.	Write about the extraction of cashew nut shell liquid (CSNL).	**12M**
7.	**a.** Explain about the roasting methods of cashew nuts.	**8M**
	b. Explain the preparation of banana starch from pseudostem.	**4M**
8.	**a.** Briefly explain the preparation of banana cheese from peel.	**5M**
	b. How to prepare banana pectin from peel?	**7M**
9.	**a.** How to prepare banana vinegar from pulp and peel?	**4M**
	b. What is mango leather?	**2M**
	c. Write about the shelling of cashew nuts.	**6M**
10.	**a.** Write about the coconut shell product.	**9M**
	b. Write about the harvesting of cashew nuts.	**3M**

UNIT III

1.	**a.** Write about molasses.	**6M**
	b. Explain about bagasse.	**6M**
2.	**a.** Explain about sugarcane wax.	**9M**
	b. Briefly explain about the production of sulphate pulp by kraft process.	**3M**
3.	**a.** Explain about the manufacture of pulp.	**7M**
	b. Briefly explain about the digestion of wood chips to pulp and washing of pulp	**5M**
4.	**a.** Explain about the bleached pulp of desired quality.	**6M**
	b. Briefly explain the production of soda pulp.	**6M**
5.	Explain about the manufacture of paper with a neat sketch.	**12M**
6.	Briefly explain about some common raw materials used for paper production.	**12M**
7.	Explain about the paper board production from agricultural wastes.	**12M**
8.	**a.** Write about the classification of feeds.	**3M**
	b. Briefly explain the feed manufacturing process.	**9M**
9.	Write about mixing in feed processing.	**12M**
10.	Explain pelletizing and extruding.	**12M**

UNIT IV

1. **a.** Write about the waste management system selection. **6M**

   b. Write about the waste management system principles. **6M**

2. **a.** Write the process of waste management alternative systems. **6M**

   b. How do you determine biochemical oxygen demand (BOD)? **6M**

3. **a.** Explain the BOD analysis of industrial waste waters. **5M**

   b. How do you determine BOD with seed material? **7M**

4. Explain the determination of dissolved oxygen (DO). **12M**

5. **a.** Data from an unseeded domestic waste water BOD test are 5.0 mL of waste water in a 300 mL bottle, initial DO of 7.8 mg/L and 5 day incubation DO equal to 4.3 mg/L. Compute the BOD and ultimate BOD assuming a k rate of 0.1 per day. **2M**

   b. A seeded BOD test is to be conducted on meat processing waste water with an estimated strength of 800 mg/L. The BOD of seed waste water is 150 mg/L.

   i) What sample portions should be used for setting up the middle dilutions of the waste water and seed test?

   ii) Calculate the BOD value for the industrial waste water if the initial DO in both seed and sample bottles is 8.5 mg/L and the 5 day DO's are 4.5 mg/L and 3.5 mg/L for the seed test bottle and seeded waste water sample, respectively. Assumed seed quality for BOD test = 1.0 mL, waste water sample = 2.0 mL and seed is 10% of its BOD test. **4M**

   c. What are the factors affecting the choice of storage facility? **6M**

6. Explain about the components of waste collection system. **12M**

7. **a.** What are the factors affecting the choice of storage facility? **6M**

   b. Briefly explain about the sumps and mixing. **6M**

8. **a.** Explain about settling. **5M**

   b. What is screening and explain the different methods of screening **7M**

9. A piggery owner desires to remove solids by settling from effluent flushed out of several production buildings. The settled solids are to be stockpiled for land application later. The average waste flow from the piggery is 24 m^3/day. Calculate the solids sludge accumulated in m3 per month and design the settling tank. Assume that the waste averages about 3% solids and 60% removal by settling and density of flow is 1000 kg/m3. Sludge has 15% solids. Design the tank if daily removal of sludge is done and flushing is for 3 h. **12M**

10. Briefly explain about drying, incineration and pyrolysis. **12M**

UNIT V

1. Explain about anaerobic decomposition. **12M**

2. What are the factors affecting anaerobic lagoon? Write the advantages and disadvantages of it. **12M**

3. a. Explain about the lagoon systems. **7M**

b. Write about the anaerobic lagoons. **5M**

4. Write about the design of anaerobic lagoons. **12M**

5. a. The recommended anaerobic lagoon system is 24 g/BOD/m^3/day. Design a lagoon system for 200 cow dairy farm if lagoon depth is 3.6 m and BOD is 0.08 kg/animal/day by using mid depth method. Assume batter slope of 2:1. **8M**

b. Explain the generalized reactions and processes for aerobic treatment. **4M**

6. a. What are the advantages and disadvantages of aerobic treatment? **6M**

b. A settled sewage, average flow 4.5 million L per day and BOD of 140 mg/L is to be applied to a standard trickling filter. The BOD loading is to be 150 g/m^3×day. Surface loading is to be 2000 L/m^2×day. Determine total BOD per day, the volume of the filter and depth. **6M**

7. Explain about the film reactors. **12M**

8. a. Explain about the diffused air system **6M**

b. Determine the number of trickling filters required for treating 6 million liters of sewage per day. Assume the BOD of sewage is 1200 ppm, depth of bed is 180 cm, diameter of filter is 45 m and rate of loading is 1440 kg BOD/ha-m/day.

9. a. Explain about the floc reactors. **8M**

b. Write down the technology of making briquetted fuel. **4M**

10. Explain about the briquettes processing. **12M**

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