



**KERALA AGRICULTURAL UNIVERSITY**

**B.Tech.(Food Engg) 2016 Admission.**

**VI Semester Final Examination- June 2018**

**Fdsc.3206**

**Food Industry Waste Management (2+0)**

**Marks: 50**

**Time: 2 hours**

**(10x1=10)**

**I Fill up the blanks**

- 1 Chemical activation for activated carbon production is preferred over physical activation due to \_\_\_\_\_ temperature; short time
- 2 Lignocelluloses is composed of hemicellulose, lignin and \_\_\_\_\_
- 3 In production of particle board from coir pith phenol formaldehyde of \_\_\_\_\_ % is used.
- 4 \_\_\_\_\_ is swelling of starch granule in presence of heat and water.
- 5 \_\_\_\_\_ is process done to produce smooth surface paper.

**State whether the following statements are true or false**

- 6 Biomass energy is a renewable source.
- 7 Activated carbon has very low degree of micro porosity.
- 8 Rice husk ash contains more than 80% silica.
- 9 Briquetting process with binder material requires high pressure
- 10 Rice bran fraction contains 14-18% oil.

**II Write short notes/answers etc on ANY FIVE**

**(5x2=10)**

- 1 Carbonization.
- 2 Pyrolysis.
- 3 Stabilization.
- 4 Molasses number.
- 5 Iodine number.
- 6 Explain BOD.
- 7 Rendering.

**III Answer any FIVE of the following.**

**(5x4=20)**

- 1 What are wastes from tuber crops?
- 2 Briquetting technology.
- 3 Pyrolysis and gasification of rice husk.
- 4 Waste utilization from coconut industry.
- 5 Oil extraction from fish waste.
- 6 Utilization of rice bran.
- 7 Effluent treatment plant in fruit industry.

**IV Answer any ONE of the following**

**(1x10=10)**

- 1 Nature and availability of food waste from fruits and vegetable industry.
- 2 By-product utilization from meat and poultry industries.

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