

(Following Paper ID and Roll No. to be filled in your Answer Book)

Paper ID : 154752

Roll No.

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B. Tech.

(SEM. III) THEORY EXAMINATION, 2015-16

BIOFUELS & ALCOHAL TECHNOLOGY

[Time:3 hours]

[Maximum Marks:100]

SECTION-A

Attempt all parts. All parts carry equal marks. Write answer of each part in short. (10×2=20)

1. (a) Write the name of fermentation if cabbage is used as substrate.
- (b) Explain Gasohol.
- (c) What do you understand by fermentation efficiency?
- (d) Describe top yeast & bottom yeast.
- (e) What do you mean by syngas fermentation?
- (f) Write three BIOS factors necessary for yeast growth.

- (g) Discuss denatured alcohol.
- (h) What do you mean by proof spirit?
- (i) What is E-number?
- (j) Define fusel oil.
- (k) Give the name of some by products produced during alcoholic fermentation.
- (l) Define Encillium process.
- (m) What do you mean by chemostat?
- (n) Define single cell protein with one example.

SECTION-B

Attempt **any five** questions from this sections. (5×10=50)

- 2. Describe various yeast strains used in breweries. What are the various parameters which affect the yeast growth?
- 3. What do you understand by biostill fermentation? Describe in brief with examples.
- 4. Describe the importance of aeration and agitation in alcohol fermentation.

- 5. Define Crabtree Effect in detail. How it affects alcohol production?
- 6. Discuss the criteria for selecting the microorganisms for industrial production?
- 7. Describe advantages, disadvantages of using alcohol as biofuel.
- 8. Define Fermentation. State its various applications.
- 9. Describe the procedure of estimation of specific gravity of beer.

SECTION-C

Attempt **any two** questions from this section. (15×2=30)

- 10. What are the various raw materials used for ethanol production? Discuss the production process of ethanol from molasses with a flow diagram.
- 11. Write a detailed note on thermal gasification of biomass.
- 12. Write an essay on "Food Vs Fuel".