**Benha University 3rd year Exam.**

**Faculty of science Micro.& Chem.**

**Botany department Industerial microbiology.**

**Part B**

1. Ethanol is used as ………………

(a- Biofuel b- Solvent c-Antiseptic **d- All**).

1. Determination of ethanol in beverages is based on color reaction between ethanol and …………….reagent.

(a- Folin b- Nesseler  **c- Cerium** d-None).

1. In beverage industry, ethanol concentration can be determined by ………...

(a- HPLC **b- HPGC** c- ELISA d- Spectrophotometer).

1. ……………….. fermentation used for screening, testing of fermentation media, strain selection and microbial growth physiology.

(**a- Batch** b- Continous c- Fed batch d- None).

1. Optimum incubation period for Sacc. Cerevisiae for bioethanol production is ……. hrs.

**(a- 24** b- 48 c- 72 d- None).

1. For bioethanol production, pretreatment of biomass required ...............treatment.

(a- Chemical b- Physical c- Biological **d- All**).

1. ………… is a very good raw material for ethanol production.

(**a- Molasses** b- Sucrose c- Glucose d- Yeast extract).

1. Enzyme used for tenderization of meat called ……………..

(a- Amylase **b- Protease** c- Pectinase d- Lipase).

1. During purification process of amylase, it can be precipitated from aqueous solution by addition of …………….

(**a- Alchol** b- Acid c- Salt d- None).

1. …………is used in baking industry.

(a- Peptidase b- Protease **c- Amylase** d- Pectinase).

1. Enzymes produced by the cell regardless to whether the particular substrate of enzyme is present in media called…………….

(**a- Constitutive** b- Adaptive c- Endocellular d- Exocellular).

1. Factors that control biodgradability of biomass in bioethanol production ………………

(a- Crystallinity of cellulose b- Lignin content c- Interlinkages between hemicellulose and lignin **d- All**).

37- Vitamin A is obtained from ……………

1. **Phycomyces blakesleeanus** b- Aspergillus oryzae c- Penicillum roqueforti

d- Aspergillus niger).

38- Riboflavin is obtained from ……………

1. Eremothecium ashbyii b- Ashbya gossypii c- Candida flaveri **d- All**).

39- …………used for treatment of pernicious anemia.

1. **Cobamide** b- Riboflavin c- Vit A d- Gibberellins).

40- During recovery of Vit B12 for drug applications, …………used.

1. Acidification b- Heating c-Centrifugation **d- All**).

41- Itaconic acid produced by ………………

1. Penicillum **b- Aspergillus terreus** c- Yeast d- All).

42- Itaconic acid is purified and crystallized from the broth by …………….

1. **Evaporation** b- Acidification c- Precipitation d- All).

43- During purification process of citric acid, ……………..is used.

(a**-** HCl **b- H2SO4** c- HNO3 d- H3PO4).

44- ……………used as an acidulant in food and pharmaceutical industries.

1. **Citric acid** b- Fumaric acid c- Itaconic acid d- Gluconic acid).

45- During purification of citric acid, it is precipitated as ………………

1. **Ca. citrate** b- K. citrate c- Na. citrate d- Ammonium. citrate).

46- Fumaric acid is harvested from fermentation medium by…………….

1. **Acidification**  b- Evaporation c-Washing d- None).

47- - …………..used for highly production of fumaric acid.

1. **Rhizopus nigricans** b- A. fumigatus **c-** A. oryzae d- A. terreus).

48- In citric acid production, ……………used to adjust medium to low pH value.

(**a- HCl** b- H2SO4 c- HNO3 d- H3PO4).

***Best wishes Dr. Nesma Elsayed.***