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Paper Code: B100601T

C (SVSU:2024-25/R)

Enrollment No.

Program Name: B.Sc. Biotechnology

VI Semester / 3rd Year Examination

Subject Code: B100601T

Subject Name: INDUSTRIAL AND ENVIRONMENTAL
BIOTECHNOLOGY

[Time: 03:00 Hours]

[Max. Marks: 70]

Note: 1. Attempt all the questions as per given instructions.

2. Fill the correct answer of MCQs

1. Multiple Choice Questions (MCQs) [01×15=15]

I The bacterium usually used for the production of acetic acid is ____.

A. Aspergillus niger

B. Clostridium butylicum

C. Acetobacter aceti

D. Lactobacillus

II Rhizobium is a free-living bacterium that fixes atmospheric nitrogen. A.True B.False

III What percentage of total world copper production do bioleach of copper alone contributes?

A. 10%

B. 17%

C. 25%

D. 33.3%

IV The term 'Intellectual Property Rights' relates to:

A. Copyrights

B. Know-how

C. Trade dress

D. All of the above

V Chlorofluorocarbons (CFCs) are also known as ____.

A. Chlorocarbon

B. Fluoromethane

C. Anisol

D. Freon

VI Ethanol containing 5% water is known as

A. Rectified spirit

B. Absolute alcohol

C. Dilute alcohol

D. Power alcohol

VII Fungi has the capability of ____

A. Water

B. Oxygen

C. Carbon

D. Potassium

VIII Bioethics is a field of ____

A. Virtue ethics

B. Ethics of care

C. Applied ethics

D. Professional ethics

IX The fed-batch culture is a/an ____ culture system

A. Open

B. Closed

C. Isolated

D. Semi-closed

X Polysaccharides, proteins, nucleic acids and ester are known as ____.

A. Secondary metabolites

B. Primary metabolites

C. None of the above

D. All of the above

- XI Regarding the concept of bioethics, which of the following statements is false?**
 A. It has to do only with cloning and euthanasia
 B. Bioethics is the same as medical ethics
 C. It has to do with the moral dimension of medical care
 D. It has to do with all aspects of medical care
- XII Which one of the following is not a greenhouse gas found naturally in the atmosphere?**
 A. Nitrogen oxide B. Carbon dioxide C. Methane D. Ozone
- XIII Spirit vinegar is produced from**
 A. Fruit juices B. Malted grain C. Ethanol D. Ale
- XIV Citric acid is a _____ acid.**
 A. Monobasic B. Tribasic C. Monoprotic D. Tribasic
- XV Carotenoids and anthocyanin pigments are examples of**
 A. Primary metabolites B. Secondary metabolites
 C. Protein D. Sugar

2. Answer in long (any three) [10×3=30]

- I What is the environmental significance of GMOs?
- II What do you mean by screening of new metabolites? Explain in detail.
- III What do you mean by bioreactor? Explain in detail.
- IV What is the procedure for the production of microbial food and SCP?

3. Answer in short (any five) [5×5=25]

- I What is the difference between bioremediation and Phyto-remediation?
- II What do you mean by strain development through selection, mutations, and recombination?
- III What are the components of the environment?
- IV Differentiate between air, water and noise pollution.
- V What is the difference between symbiotic and asymbiotic nitrogen-fixing bacteria?
- VI What is the degradation of lignin?
- VII What is the importance of IPR?