Yashwantrao Chavan College of Science,Karad
B.Sc. (Part-II) Examination, Mar/April- 2024-CBCS
BIOTECHNOLOGY (Opt/Voc)
Biophysics and Enzyme technology (Paper V)
Subject Code :- 73318
Question Bank

MCQ

i) The immobilization technique involving physical method is _____.
- a) covalent bond formation dependent
- b) non-covalent bond formation dependent
- c) physical adsorption
- d) ionic bond formation dependent

ii) _____ is the most commonly employed cross-linked polymer.
- a) Polyacrylamide
- b) Collagen
- c) Cellulose
- d) Cation exchange

iii)The immobilized enzyme produced by microencapsulation technique provides _____.
- a) an extremely large surface area
- b) smaller surface area
- c) high amount of solvent
- d) relatively smaller surface area

iv) _____ is not an advantage of immobilization.
- a) Minimum reaction time
- b)Cheap isolation of cells/enzymes
- c) Can be reused
- d) Less labour input

v) _____ is a synthetic polymer used as a support matrix.
- a) DEAP cellulose
- b) Collagen
- c) Zeolites
- d) Starch

vi) EMR are consist of _____.
- a) photons
- b) X- rays
- c) UV rays
- d) cathode rays

vii)Wave length of IR is _____.
- a) 400-2500 nm
- b) 3000-5200 nm
- c) 1000-4500 nm
- d) 4000-25000 nm

viii)_____ is not a property of carrier matrices.

a) Thermal stability
b) Stability of the material
c) Physical strength
d) Easily available

ix) _____ is not a characteristic of the immobilized enzymes.
a) They cannot be reused
b) It produces reproducible results
c) Stability exists
d) Same catalytic activity

x) For controlling the glucose sensor _____ is used as a gel.
a) Urea
b) urease
c) acrylamide
d) polyacrylamide

xi) _____ is not involved in adsorption.
a) Covalent bond
b) Ionic interaction
c) Hydrogen bond
d) Covalent bonding

xii) _____ is not a method of entrapment.
a) Inclusion in gels
b) Diazotization
c) Inclusion in fibers
d) Inclusion

xiii) Enzymes are basically made up of _____.
a) proteins
b) carbohydrates
c) lipids
d) polysaccharides

xiv) The enzymes minus its coenzyme known as _____.
a) apoenzyme
b) metalloenzyme
c) isoenzyme
d) holoenzyme

xv) The enzyme which hydrolyses starch to maltose is _____.
a) protease
b) amylase
c) lactose
d) maltose

xvi) _____ is a synthetic polymer used as a support matrix.
a) DEAP cellulose
b) Collagen
c) Zeolites
d) Starch

xvii)Restriction of enzyme mobility in a fixed space is known as _____.
a) enzyme immobilization
b) enzyme inhibition
c) enzyme kinetics
d) biosensor

xviii)Microarrays are also known as _____.
a) microscopic
b) biochips
c) glass chips
d) filters

xix)UV spectroscopy is working on the principal of _____.
a) entrapment
b) covalent bond
c) adsorption
d) ionic bond

xx)_____ is the commonly employed adsorbents.

a) Calcium carbonate b) Urea

c) Collagen d) Gelatin

Long Questions

i)Define enzymes. Describe in detail classification of enzymes.

ii)Explain derivation of km and write the significance of km.

iii)What is spectroscopy? Explain the principle, working and application of fluorescence spectroscopy.

iv)Explain "factors influencing enzyme activity".

v)Define enzymes. Explain the structure and functions of isoenzymes.

vi)Explain the principle, working and application of infrared spectroscopy.

vii)Explain concept of immobilization and explain methods of immobilization.

viii)What is allosteric enzymes? Explain the sequential model.

ix)Explain the principle, working and application of UV spectroscopy

Short Notes

i)Competitive inhibitors.

ii)Explain the immobilization.

iii)Activation energy.

iv)Fluorescence spectroscopy.

v)Lock and key hypothesis.

vi)Types of Biosensor.

vii) Oxidoreductases.

viii)Effect of temperature on enzyme activity.

ix)Write advantages of immobilization.

x)Covalent bonding.

xi)Indused Fit Hypothesis

xii)Fluorescence spectroscopy.

xiii)Applications of Biosensor

xiv)Feedback Inhibition

xv)Significance of Km and Vmax