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B.SC III year Microbiology Multiple choice questions

Paper XVI Microbial Metabolism

Unit I

- 1) When an enzyme catalyses the conversion of a single substrate, it is referred to as _____ specificity.
a) Group b) **Absolute** c) Relative d) Stereo
- 2) The enzyme Kinase belongs to the group of _____
a) Ligases b) Hydrolases c) **Trasferases** d) Lyases
- 3) Saturation of enzyme with substrate molecules led to the _____ equation.
a) Lineweaver b) **Michaelis-Menton** c) Eadie -Hoffstee d) Briggs – Haldane
- 4) The pH profile of most of the enzymes show a _____ type of graph.
a) Exponential b) Linear c) **Bell shaped** d) Rectilinear
- 5) Enzymes that are produced in response to a substrate/inducer are called as _____.
a) Constitutive b) **Inducible** c) Apo d) Holo

Unit II

- 1) Malonate is a _____ inhibitor of succinate .
a) **Competitive** b) Non competitive c) Uncompetitive
d) Irreversible
- 2) _____ are enzymes that exist in multiple molecular forms.
a) Allosteric b) Immobilised c) **Isoenzymes** d) Ribozymes
- 3) Invertases are used in _____ .
a) **Fruit juices** b) Medicines c) Detergent d) Textiles.

- 4) Glucose oxidase is an enzyme used in _____ preparations.
- a) Food b) **Clinical** c) Beverage d) Dairy.
- 5) Renin is used during the manufacture of _____.
- a) **Cheese** b) Curd c) Whey d) Soy protein
- 5) Enzymes act by _____ .
- a) reducing the activation energy b) increasing the activation energy c) decreasing the pH d) increasing the pH .

Unit III

- 1) _____ is another term for biosynthesis.
- a) Catabolism b) **Anabolism** c) Metabolism d) Catalyst
- 2) Catabolism is a form of metabolism in which _____ molecules are converted to _____ molecules.
- a) **large, small** b) small, large c) food, storage d) large ,large.
- 3) Energy in biological systems is primarily of _____ form.
- a) **Free energy** b) Radiant c) fuel d) mechanical
- 4) Reducing power of a cell is in the form of _____.
- a) **NAD** b) FAD c) NADP d) All of these.
- 5) Biological oxidations are reaction in which there is _____.
- a) **Removal of hydrogen followed by hydrogenation of NAD** b) Removal of oxygen c) Addition of oxygen d) removal of hydrogen
- 6) ATP produced from fermentations is as a result of _____.
- a) **Substrate level phosphorylation** b) Oxidative phosphorylation c) Photophosphorylation d) Electron transport phosphorylation.
- 7) The enzyme that splits Fructose diphosphate in glycolysis is _____
- a) Kinase b) Isomerase c) **Aldolase** d) Mutase
- 8) In HMP pathway there occurs _____ oxidation of glucose.

a) **early** b) late c) simultaneous d) occasional

9) 2-Keto 3- deoxy 6- phospho gluconic acid is an intermediate of _____ pathway.

a) HMP b) EMP c) Phosphoketolase d) **ED**

10) Thiamin pyrophosphate is a carrier of active _____ groups .

a) **aldehyde** b) keto c) glycoaldehyde d) dihydroxy acetone

Unit IV

1) Cytochromes have _____ as the redox centre.

a) Fe^{+2} b) Fe^{+3} c) **Fe^{+2} and Fe^{+3}** d) Zn

2) Ubiquinones are _____ with respect to its presence in the ETC.

a) Unique b) Uniform c) **ubiquitous** d) uneven

3) An example of a primary carrier in the ETC is _____

a) Cytochromes b) Fe-S proteins c) Ubiquinones d) **NAD, FAD.**

4) In aerobic ETC, _____ is the terminal electron acceptor.

a) **Oxygen** b) Nitrate c) Sulphate d) Hydrogen peroxide.

5) TCA cycle is an _____ pathway

a) Anabolic b) Catabolic c) **Amphibolic** d) Anaplerotic.

6) One round of β -Oxidation of even numbered fatty acids generates _____ after thiolysis.

a) Succinyl CoA b) Propionyl Co A c) **Acetyl CoA** d) Butyryl COA.

7) The decarboxylation of aminoacids yields _____.

a) Amines b) Aminoacids c) Ketoacids d) Peptones

Paper XIX Recombinant DNA technology

Unit I

- 1) DNA insert is also called as _____
a) **Target DNA** b) Reference DNA c) Probe d) Primer
- 2) Gene cloning vehicle is called as a _____
a) **Vector** b) Endonucleases c) Target DNA d) Adapter
- 3) BT cotton is product of _____
a) Adaptation b) Mutation c) Lineage d) **Genetic manipulation.**
- 4) The restriction endonucleases that have commercial importance is
a) Type I b) **Type II** c) Type III d) Star activity RE
- 5) The restriction enzymes have discrete _____ sites.
a) Replication b) Origin c) ter sites d) **Recognition**

Unit II

- 1) The process of detection of tetracycline inactivation in pBR 322 is _____
a) **Insertional inactivation** b) Colony hybridization c) Southern blotting d) Northern blotting .
- 2) Lambda vectors are of two types _____ and _____
a) **Insertion and replacement** b) replacement and alternate c) Augmentation and replacement d) Collateral and insertion.
- 3) YAC contains at least one of these for identification
a) Chromatin b) **Telomere** c) Chimera d) MCS
- 4) _____ is a method of driving DNA by punching holes in the cell
a) Liposome b) Protoplast fusion c) calcium chloride treatment d) **Electroporation.**
- 5) _____ is a chemical used in protoplast fusion.
a) **Polyethylene glycol** b) chloroform c) Toluene d) Isoamyl alcohol

Unit III

- 1) Labelling of a probe is done using
a) Radioactive labelling b) streptavidin c) nick translation d) **all of these techniques**

- 2) Direct labelling of a probe is done using _____
- a) **T4 polynucleotide kinase** b) Ligase c) Phosphatase d) Polymerase.
- 3) The high temperature polymerization in InVitro DNA amplification is done using
- a) **Taq polymerase** b) Ampli taq c) Tth polymerase d) all of these.
- 4) The technique used to identify specific DNA sequences in bacterial colonies is
- a) **Colony hybridization** b) Dot blot c) Northern blotting d) Western blotting
- 5) Southern hybridization is used to identify
- a) **DNA** b) Protein c) RNA d) Both DNA and RNA

Unit IV

- 1) The following diseases can be treated by gene therapy
- a) SCID b) Lesch Nyhans syndrome c) Huntington's disease **d) All of these .**
- 2) When the type of gene therapy is inherited it is called as _____ gene therapy.
- a) Somatic cell b) Protoplast **c) Germline** d) Inherited
- 3) _____ are a group of signaling proteins released by the host cells to control pathogenic bacteria and viruses.
- a) **Interferons** b) Antibiotics c) Analogues d) Antiviral agents
- 4) The superbug used for metal remediation and oil spill restoration was discovered by
- a) Lederberg b) Tatum c) Nirenberg d) **Anand Mohan Chakraborty.**
- 5) Ethics are a set of _____ .
- a) Formulae b) **Standards** c) Equations d) Judgements

8)

