



BRAINWARE UNIVERSITY

Term End Examination 2020 - 21

Programme – Bachelor of Science (Honours) in Biotechnology

Course Name – Biotechnology and Human Welfare

Course Code - BBT304A

Semester / Year - Semester III

Time allotted : 85 Minutes

Full Marks : 70

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 70=70

1. (Answer any Seventy)

(i) Name the start codon of amino acid synthesis

- | | |
|--------|--------|
| a) UUA | b) AUG |
| c) UUU | d) AGU |

(ii) In gluconeogenesis 'glucose 6-phosphate' is converted into 'glucose' by

- | | |
|-------------------------------------|----------------------------------|
| a) Releasing one phosphate molecule | b) Adding one phosphate molecule |
| c) Releasing two phosphate molecule | d) Adding two phosphate molecule |

(iii) Which compound is available at the N-terminal site of amino acid?

- | | |
|--------------------|-------------------|
| a) NH ₂ | b) COOH |
| c) CONH | d) H ₂ |

(iv) What is percentage of fungal resources used for optimum enzyme production?

- | | |
|-------|-------|
| a) 22 | b) 60 |
| c) 4 | d) 40 |

(v) Protein engineering can be done by

- | | |
|------------------------|--------------------|
| a) Fermentation | b) Gluconeogenesis |
| c) Amino acid exchange | d) Gene cloning |

(vi) In protein molecule alpha helix and beta sheet can be clearly visible at

- a) Primary structure
- b) Secondary structure
- c) Tertiary structure
- d) Quaternary structure

(vii) The codon responsible for methionine amino acid is

- a) UUA
- b) AUG
- c) GCU
- d) AUA

(viii) Ligation refers

- a) Joining of DNA molecules
- b) Cutting of DNA molecules
- c) Amplification of DNA molecule
- d) Cloning of gene

(ix) Bacteria contributes _____ % of total commercial enzyme production;

- a) 5%
- b) 24%
- c) 60%
- d) 15%

(x) In general, bacteria needs _____ temperature for optimum growth.

- a) 37° C
- b) 24° C
- c) 47° C
- d) 28° C

(xi) Yeast biomass is the good source of

- a) Sugars
- b) Lipids
- c) Minerals & salts
- d) Protein & vitamins

(xii) Amino acids are connected with

- a) H-bond
- b) Covalent bond
- c) Hydrophilic bond
- d) Peptide bond

(xiii) Alpha helix and beta sheet of amino acid chain can NOT visible in

- a) Quaternary structure
- b) Secondary structure

- c) Primary structure
- d) Tertiary structure

(xiv) Meat tenderizer enzyme is

- a) Cellulase
- b) Amylase
- c) Papain
- d) Pectinase

(xv) The first industrial enzyme was discovered in

- a) 1896
- b) 1986
- c) 1869
- d) 1969

(xvi) Cane sorghum contains ____% of fermentable sugar.

- a) 24
- b) 34
- c) 14
- d) 4

(xvii) Chlorophyll is

- a) Plant based hormone
- b) Plant based metabolites
- c) Plant pigment
- d) plant toxin

(xviii) Tumor growth in a plant is the symptom of

- a) Gall disease
- b) Wilt disease
- c) Canker disease
- d) Blight disease

(xix) PEG is used in gene transfer in plants by

- a) Biological method
- b) Physical method
- c) Chemical method
- d) Mechanical method

(xx) Agrobacterium tumefaciens has ____ number of chromosomes

- a) 2
- b) 6
- c) 8
- d) 4

- (xxi) In Ti plasmid the opine synthesis gene is located
- a) near the left T-DNA border
 - b) near the right T-DNA border
 - c) in between vir region and left T-DNA border
 - d) near to Ori genes
- (xxii) What is the raw material normally used in bioethanol production?
- a) Protein
 - b) Lipid
 - c) Mineral
 - d) Sugar
- (xxiii) Agrobacterium tumefaciens contains about _____ number of genes.
- a) 5000
 - b) 500
 - c) 50,000
 - d) 5500
- (xxiv) Full form of PEG is
- a) Polyethylene glycol
 - b) Polyester glycol
 - c) Polyethylene glucose
 - d) Polyester glucose
- (xxv) Nostoc is an example of
- a) Filamentous algae
 - b) Unicellular algae
 - c) Bacteria
 - d) Macro fungi
- (xxvi) Alkaloids are
- a) Plant hormone
 - b) Plant toxin
 - c) Plant primary metabolites
 - d) Plant secondary metabolites
- (xxvii) How much does a bushel of shelled corn weigh?
- a) 20 pounds
 - b) 30 pounds
 - c) 40 pounds
 - d) 50 pounds
- (xxviii) What is the name of one of the 4 compartments of a ruminant's stomach?

- a) Rumen
- b) Calf
- c) Udder
- d) Hind

(xxix) What is a measure of the average additional pounds of milk and fat the bull will transmit to his daughters called?

- a) Age
- b) Efficiency
- c) Predicted difference
- d) Milking capacity

(xxx) What do nonstructural carbohydrates consist of?

- a) Plant proteins, pectin, and sugar
- b) Protein
- c) Plant starch, pectin, and sugar
- d) Plant sugar

(xxxi) How much more energy do fats contain per unit than carbohydrates and proteins?

- a) 3.0
- b) 2.25
- c) 3.5
- d) 1.5

(xxxii) Where are undegradable proteins absorbed?

- a) Liver
- b) Small intestine
- c) Rumen
- d) Large intestine

(xxxiii) Major petrochemicals are

- a) acetylene
- b) benzene
- c) methane
- d) All of these

(xxxiv) Limiting factors of biodegradation of petroleum hydrocarbon

- a) chemistry
- b) physiological factors
- c) nutrients
- d) all of these

(xxxv) Method of disposal for dairy product processing

- a) Land filling
- b) Land spreading

c) both of these

d) None of these

(xxxvi) Method of disposal for Sugar processing

a) composting

b) burning

c) composting

d) All of these

(xxxvii) Waste from leather tanning

a) Fleshings

b) hair and raw

c) Tanned trimmings

d) All of these

(xxxviii) Waste from animal production are

a) Biological sludges

b) trimings

c) manures

d) peels, leaves

(xxxix) Examples of agrowaste

a) fats

b) oil waxes

c) cellulose

d) all of these

(xl) Environmental stress includes

a) Abiotic stress

b) Biotic stress

c) both of these

d) None of these

(xli) Example of chemical stress are

a) herbicides

b) wind

c) chilling

d) Radiation

(xlii) Chilling and freezing injury can directly affect

a) crop growth

b) physical damage

c) reducing yield

d) all of these

(xliii) Psychrophiles grows in

- a) 15 to 20°C
- b) 35 to 45°C
- c) 45 to 100°C
- d) all of these

(xliv) Thermophiles grows in

- a) 15 to 20°C
- b) 35 to 45°C
- c) 45 to 100°C
- d) all of these

(xlv) Example of Non biodegradable polymers

- a) poly vinyl chloride,
- b) polyethylene
- c) both of these
- d) None of these

(xlvi) Types of bioerosion are

- a) Bulk erosion
- b) Surface erosion
- c) Both of these
- d) None of these

(xlvii) Natural biodegradable polymers are

- a) Collagen
- b) Dextran
- c) Gelatin
- d) All of these.

(xlviii) The length of RAPD primer is

- a) 10-15 bp
- b) 30-40 bp.
- c) 40-50 bp.
- d) none

(xlix) DNA of eukaryotic organisms has several repeating units of short sequences called

- a) random repeats.
- b) tandem repeats.
- c) mini satellites
- d) all of these

(l) Which one of the following marker is of co-dominant type?

- a) RAPD.
- b) RFLP.

c) both of these

d) None of these

(li) The extension temperature of PCR is --- degree centigrade.

a) 72

b) 50-60

c) 95

d) 20

(lii) Paternity test is best determined by

a) RAPD.

b) AFLP

c) SSR.

d) non repetitive DNA.

(liii) The number of nucleotide repeats in minisatellite are

a) 6-10

b) 1-5

c) 15-30

d) 30-80

(liv) The number of base pairs in primer is

a) 2-3

b) . 3-4

c) 25-35

d) 100-200

(lv) In agarose gel DNA fragments moves according to their

a) Size

b) charge

c) charge and size

d) all

(lvi) Simple sequence repeats are

a) 1-6 bp long sequences distributed along the chromosome

b) individual specific in number and position.

c) also called as micro satellites

d) All of these

(lvii) Molecular marker Include

a) RFLP

b) AFLP

c) SSR

d) All of these

(lviii) Molecular markers are used to construct

- a) chromosome maps
- b) cytogenetic maps
- c) physical maps
- d) All of these

(lix) Mode of action of forensic study

- a) Examination of physical evidence
- b) Administration of tests
- c) Interpretation of data
- d) All of these

(lx) Role of forensic experts are

- a) physical and chemical analyses on physical evidence
- b) law enforcement officials
- c) microscopic examining techniques
- d) All of these

(lxi) Fields of forensic science

- a) Forensic Optometry
- b) Forensic DNA Analysis
- c) Forensic Pathology
- d) All of these

(lxii) Biological samples for DNA fingerprinting

- a) Blood
- b) Hair
- c) Saliva
- d) All of these

(lxiii) Nylon/Nitrocellulose membrane are used for

- a) Transfer of DNA
- b) Lysis of cell
- c) Cutting of DNA fragments
- d) All of these

(lxiv) DNA fingerprinting can cure diseases like

- a) Huntington's disease
- b) sickle cell anemia
- c) thalassemia
- d) All of these

(lxv) The name for a monoclonal antibody is formatted as

- a) PREFIX – SUFFIX -TARGET -
- b) PREFIX – TARGET - SOURCE

SOURCE SPECIES –

c) PREFIX – TARGET - SPECIES –
SUFFIX -SOURCE

SPECIES – SUFFIX

d) SPECIES -PREFIX – TARGET -
SOURCE – SUFFIX

(lxvi) Humanized monoclonal antibodies are

- a) Palivizumab
- c) Alemtuzumab

- b) Trastuzumab
- d) All of these

(lxvii) Monoclonal antibody for Alzheimer`s disease

- a) Bapineuzumab
- c) aducanumab

- b) Solanezumab
- d) all of these

(lxviii) Disadvantage of killed vaccine

- a) Multiple doses required
- c) Both of these

- b) Poorly defined composition
- d) None of these

(lxix) First approved gene therapy experiment

- a) Ashanti DeSilva was treated for
alzheimer
- c) Ashanti DeSilva was treated for ADA-
SCID

- b) Ashanti DeSilva was treated for multiple
sclerosis
- d) Ashanti DeSilva was treated for
Huntington`s disease

(lxx) Example of somatic cell gene therapy

- a) Introduction of genes into bone
marrow cells
- c) Introduction of genes into skin cells

- b) Introduction of genes into blood cells
- d) all of these