CAREERS 360
PREPARATION Series

CUET 2025

Microbiology
Question paper 2025

NTA CUET PG ENTRANCE EXAM_13th March to 01st April 2025

Application No	
Candidate Name	
Roll No.	
Test Date	26/03/2025
Test Time	12:30 PM - 2:00 PM
Subject	Applied Microbiology Or Microbiology

Section : **Applied Microbiology Or Microbiology**

Q.1

Which of the following are features of chlorosomes?

(A). Light harvesting

(B). Contain chlorophyll a

(C). Present in green bacteria

(D). Galactolipid membrane

Choose the **correct** answer from the options given below:

1. (A) and (D) only
2. (A) only
3. (A), (B) and (D) only
4. (A), (C) and (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701171**
Option 1 ID : **1780704641**
Option 2 ID : **1780704642**
Option 3 ID : **1780704643**
Option 4 ID : **1780704644**
Status : **Not Answered**
Chosen Option : **--**

Q.2

Match **List-I** with **List-II**

List-I	**List-II**
Author	**Contribution**
(A). Martinus Beijerinck	(I). One gene-one enzyme hypothesis
(B). Sergei Winogradsky	(II). First time isolation of nitogen fixing bacterium *Clostridium pasteurianum*
(C). George Beadle and Edward Tatum	(III). Restriction enzymes
(D). Hamilton Smith, Daniel Nathans, Werner Arber	(IV). Enrichment culture technique

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (II), (C) - (I), (D) - (III)
3. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**
Question ID : **1780701148**
Option 1 ID : **1780704549**
Option 2 ID : **1780704550**
Option 3 ID : **1780704551**
Option 4 ID : **1780704552**
Status : **Not Answered**
Chosen Option : **--**

Q.3

Which of the following is an exotoxin producing anaerobic organism associated with food poisoning?

1. *Clostridium botulinum*
2. *Staphylococcus aureus*
3. *Bacillus cereus*
4. *Giardia lamblia*

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**
Question ID : **1780701188**
Option 1 ID : **1780704709**
Option 2 ID : **1780704710**
Option 3 ID : **1780704711**
Option 4 ID : **1780704712**
Status : **Answered**
Chosen Option : **1**

Q.4

The organisms which have the ability to grow in a very dry environment are known as:

1. Halophiles
2. Piezophiles
3. Xerophiles
4. Acidophiles

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701139**
Option 1 ID : **1780704513**
Option 2 ID : **1780704514**
Option 3 ID : **1780704515**
Option 4 ID : **1780704516**
Status : **Answered**
Chosen Option : **3**

Q.5

Which of the following oligonucleotide probes (*flourescent tag") will hybridize to a target RNA sequence?

5'- GAAACCUCUGGCAAUCCGAUGUGCCAA-3'

1. 5' - GAGACCGUUAGGCUACAC*-3'
2. 3' - GAGACGGUAAGGCUACAA*-5'
3. 3' - GACGGUAAGGCUACAA*-5'
4. 3' - GAGACCGUUAGGCUACAC*-5'

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701163**
Option 1 ID : **1780704609**
Option 2 ID : **1780704610**
Option 3 ID : **1780704611**
Option 4 ID : **1780704612**
Status : **Not Answered**
Chosen Option : **--**

Q.6

Which of the following media is used for isolation of *Staphylococcus*?

1. McConkey Agar
2. Mannitol Salt agar
3. SS Agar
4. Lowstein Jenson Medium

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701198**
Option 1 ID : **1780704749**
Option 2 ID : **1780704750**
Option 3 ID : **1780704751**
Option 4 ID : **1780704752**
Status : **Answered**
Chosen Option : **1**

Q.7

Arrange the following vectors on the basis of insert size carrying capacity.

(A). Cosmids

(B). Bacteriophages

(C). Plasmids

(D). Bacterial Artificial Chromosomes

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D)
2. (A), (B), (D), (C)
3. (B), (A), (D), (C)
4. (C), (B), (D), (A)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701165**
Option 1 ID : **1780704617**
Option 2 ID : **1780704618**
Option 3 ID : **1780704619**
Option 4 ID : **1780704620**
Status : **Not Answered**
Chosen Option : **--**

Q.8

Which of the following is not used as a cyanobacterial biofertilizer?

1. *Cylindrospermum*
2. *Tolypothrix*
3. *Anabaena*
4. *Azospirillum*

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701180**
Option 1 ID : **1780704677**
Option 2 ID : **1780704678**
Option 3 ID : **1780704679**
Option 4 ID : **1780704680**
Status : **Not Answered**
Chosen Option : **--**

Q.9

Which of the following is the most abundant protein on earth?

1. Ribulose bisphosphate carboxylase
2. Glucose oxidase
3. Glutamate dehydrogenase
4. Transaminase

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701144**
Option 1 ID : **1780704533**
Option 2 ID : **1780704534**
Option 3 ID : **1780704535**
Option 4 ID : **1780704536**
Status : **Answered**
Chosen Option : **1**

Q.10

Which of the following enzymes is responsible for synthesis of mRNA in prokaryotes?

1. RNA Polymerase I
2. RNA Polymerase III
3. RNA Polymerase II
4. RNAse H

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701194**
Option 1 ID : **1780704733**
Option 2 ID : **1780704734**
Option 3 ID : **1780704735**
Option 4 ID : **1780704736**
Status : **Answered**
Chosen Option : **1**

Q.11

Which of the following statements is true about the lac operon?

(A). Lac operon is under positive regulation through CRP.

(B). Lac operon has three structural genes.

(C). Lac repressor binds to the lac promoter.

(D). Lac operon is expressed in the presence of both glucose and lactose.

Choose the **correct** answer from the options given below:

1. (A) and (B) only
2. (A), (C) and (D) only
3. (B), (C) and (D) only
4. (B) and (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701210**
Option 1 ID : **1780704797**
Option 2 ID : **1780704798**
Option 3 ID : **1780704799**
Option 4 ID : **1780704800**
Status : **Not Answered**
Chosen Option : **--**

Q.12

Coenzymes and Prosthetic groups are small non-protein molecules that take part in catalysis. What is the major difference between the two cofactors?

1. Coenzymes are loosely bound while prosthetic groups are tightly bound to the enzyme
2. Coenzymes are tightly bound while prosthetic groups are loosely bound to the enzyme and can be easily extracted
3. Coenzymes are metal ions while prosthetic groups are derivatives of vitamins
4. NADP+ is an example of prosthetic group

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701150**
Option 1 ID : **1780704557**
Option 2 ID : **1780704558**
Option 3 ID : **1780704559**
Option 4 ID : **1780704560**
Status : **Not Answered**
Chosen Option : **--**

Q.13

Which of the following facts is/are true about Shuttle vectors?

(A). Vectors that have the capability to replicate in only related host organisms

(B). Vectors that have the capability to replicate in two unrelated host organisms

(C). Shuttle vectors have two origins of replication

(D). Shuttle vectors do not have a selection marker

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (B) and (C) only
4. (B), (C) and (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701155**
Option 1 ID : **1780704577**
Option 2 ID : **1780704578**
Option 3 ID : **1780704579**
Option 4 ID : **1780704580**
Status : **Not Answered**
Chosen Option : **--**

Q.14

Which of the following tests are used to check spoilage of milk?

(A). Clot on boiling test

(B). Resazurin reduction assay

(C). MBRT

(D). MPN test

Choose the **correct** answer from the options given below:

1. (A), (B) (D) only
2. (B) and (C) only
3. (A), (B), (C) and (D)
4. (A), (B) and (C) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701196**
Option 1 ID : **1780704741**
Option 2 ID : **1780704742**
Option 3 ID : **1780704743**
Option 4 ID : **1780704744**
Status : **Answered**
Chosen Option : **4**

Q.15

What is a missense mutation?

1. Mutation that does not affect phenotype of the cell.
2. Muation that alters translation product to be made.
3. Mutation which always makes the protein non functional.
4. Mutation that codes for the same protein.

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701154**
Option 1 ID : **1780704573**
Option 2 ID : **1780704574**
Option 3 ID : **1780704575**
Option 4 ID : **1780704576**
Status : **Not Answered**
Chosen Option : **--**

Q.16

During catabolism when ATP is produced directly from energy-rich intermediates, the process is called:

1. Oxidative phosphorylation
2. Substrate-level phosphorylation
3. Proton Motive Force
4. Photosynthesis

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701136**
Option 1 ID : **1780704501**
Option 2 ID : **1780704502**
Option 3 ID : **1780704503**
Option 4 ID : **1780704504**
Status : **Answered**
Chosen Option : **1**

Q.17

In vertical gel electrophoresis, the function of the β-mercaptoethanol is:

1. to provide charge to the primary structure of the protein
2. to oxidize the disulfide bond
3. to reduce the disulfide bond
4. provide density to the protein

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701147**
Option 1 ID : **1780704545**
Option 2 ID : **1780704546**
Option 3 ID : **1780704547**
Option 4 ID : **1780704548**
Status : **Not Answered**
Chosen Option : **--**

Q.18

Mycorrhizae ia an association between:

1. Plant roots and Algae
2. Plant root and Protozoa
3. Plant roots and Fungi
4. Plant leaves and Algae

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701162**
Option 1 ID : **1780704605**
Option 2 ID : **1780704606**
Option 3 ID : **1780704607**
Option 4 ID : **1780704608**
Status : **Answered**
Chosen Option : **3**

Q.19

What is the function of impellers in a fermentor?

1. To increase the turbulence
2. To monitor temperature and pH
3. For oxygen mixing
4. To stir the medium

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701193**
Option 1 ID : **1780704729**
Option 2 ID : **1780704730**
Option 3 ID : **1780704731**
Option 4 ID : **1780704732**
Status : **Answered**
Chosen Option : **3**

Q.20

Which of the following can not be separated using electrophoresis?

1. Nucleic acids
2. Lipids
3. Amino acids
4. Proteins

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701157**
Option 1 ID : **1780704585**
Option 2 ID : **1780704586**
Option 3 ID : **1780704587**
Option 4 ID : **1780704588**
Status : **Answered**
Chosen Option : **2**

Q.21

Arrange the steps in RNA synthesis in the correct order.

(A). Release of polymerase

(B). Release of sigma factor followed by elongation

(C). Recognition of promoter by sigma factor

(D). Identification of terminator site

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D)
2. (C), (B), (D), (A)
3. (B), (A), (D), (C)
4. (C), (D), (B), (A)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701192**
Option 1 ID : **1780704725**
Option 2 ID : **1780704726**
Option 3 ID : **1780704727**
Option 4 ID : **1780704728**
Status : **Answered**
Chosen Option : **2**

Q.22

Match **List-I** with **List-II**

List-I	List-II
(A). Chemostat	(I). The culture is maintained at high cell density by repeated addition of the nutrient till the reactor reaches its maximum capacity
(B). Turbidostat	(II). It is a closed culture system
(C). Batch culture	(III). Growth rate and cell density of the culture is controlled by the concentration of limiting nutrient
(D). Fed Batch Culture	(IV). Growth rate and cell density of the culture is controlled by the turbidity of the culture

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (III), (B) - (II), (C) - (I), (D) - (IV)
3. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701140**
Option 1 ID : **1780704517**
Option 2 ID : **1780704518**
Option 3 ID : **1780704519**
Option 4 ID : **1780704520**
Status : **Answered**
Chosen Option : **4**

Q.23

Which of the following is not an Antigen Presenting Cell?

1. B cell
2. Basophil
3. Dendritic cell
4. Macrophage

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701175**
Option 1 ID : **1780704657**
Option 2 ID : **1780704658**
Option 3 ID : **1780704659**
Option 4 ID : **1780704660**
Status : **Answered**
Chosen Option : **3**

Q.24

If organism A possesses 55% G+C content and organism B has 25% of the G+C content in their genome, what inference can be drawn?

1. Both organisms are closely related.
2. Both organisms are unrelated.
3. Both organisms belong to different taxon.
4. No inference can be drawn from this data.

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701173**
Option 1 ID : **1780704649**
Option 2 ID : **1780704650**
Option 3 ID : **1780704651**
Option 4 ID : **1780704652**
Status : **Not Answered**
Chosen Option : **--**

Q.25

During cell cycle, DNA duplication and transcription occur during:

1. G1 phase
2. M phase
3. S phase
4. G2 phase

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701160**
Option 1 ID : **1780704597**
Option 2 ID : **1780704598**
Option 3 ID : **1780704599**
Option 4 ID : **1780704600**
Status : **Answered**
Chosen Option : **3**

Q.26

Which of the following sugar derivative(s) is found in bacterial cell wall?

(A). Lipopolysaccharide (LPS)

(B). Lipid A

(C). N-acetyl muramic acid

(D). D-galactosamine

Choose the **correct** answer from the options given below:

1. (C) only
2. (A) and (C) only
3. (A), (B) and (C) only
4. (C) and (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701137**
Option 1 ID : **1780704505**
Option 2 ID : **1780704506**
Option 3 ID : **1780704507**
Option 4 ID : **1780704508**
Status : **Answered**
Chosen Option : **2**

Q.27

Enzyme sequence involved in formation of L-isoleucine from L-Threonine is regulated by:

1. Feedback inhibition
2. Competitive inhibition
3. Non-competitive inhibition
4. Specific inhibition

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701178**
Option 1 ID : **1780704669**
Option 2 ID : **1780704670**
Option 3 ID : **1780704671**
Option 4 ID : **1780704672**
Status : **Not Answered**
Chosen Option : **--**

Q.28

When a petite mutant isolated from aerobically cultured yeast is crossed with wild-type strain, the progeny obtained is all wild type. Identify the type of mutation.

1. Suppressive
2. Neutral
3. Segregational
4. Silent

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701169**
Option 1 ID : **1780704633**
Option 2 ID : **1780704634**
Option 3 ID : **1780704635**
Option 4 ID : **1780704636**
Status : **Not Answered**
Chosen Option : **--**

Q.29

Which of the following biological materials has not been patented?

1. Oncomouse
2. Superbug
3. 6- aminopenicillinic acid
4. DDT

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701146**
Option 1 ID : **1780704541**
Option 2 ID : **1780704542**
Option 3 ID : **1780704543**
Option 4 ID : **1780704544**
Status : **Not Answered**
Chosen Option : **--**

Q.30

Calculate the melting temperature (ºC) of the following primer:

Primer Sequence 5'-AGCTAATCCGGGCTACCG-3'

1. 58 ºC
2. 52 ºC
3. 56 ºC
4. 39 ºC

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701141**
Option 1 ID : **1780704521**
Option 2 ID : **1780704522**
Option 3 ID : **1780704523**
Option 4 ID : **1780704524**
Status : **Not Answered**
Chosen Option : **--**

Q.31

Out of all given options, which ones are stop codons?

1. UAA, UGA, UAG
2. UGG, UGA, UAC
3. UCC, UAA, UGC
4. UAC, UAG, UAA

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701174**
Option 1 ID : **1780704653**
Option 2 ID : **1780704654**
Option 3 ID : **1780704655**
Option 4 ID : **1780704656**
Status : **Answered**
Chosen Option : **1**

Q.32

Which of the following treaty/convention provided "international recognition of microorganisms" for the purpose of patent procedure?

1. Patent Cooperation Treaty
2. Paris convention
3. Strasbourg convention
4. Budapest Treaty

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701208**
Option 1 ID : **1780704789**
Option 2 ID : **1780704790**
Option 3 ID : **1780704791**
Option 4 ID : **1780704792**
Status : **Not Answered**
Chosen Option : **--**

Q.33

Which of the following is exclusively recessive X-linked trait ?

1. Cystic fibrosis
2. Red green colour blindness
3. Baldness
4. Albinism

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701199**
Option 1 ID : **1780704753**
Option 2 ID : **1780704754**
Option 3 ID : **1780704755**
Option 4 ID : **1780704756**
Status : **Answered**
Chosen Option : **1**

Q.34

Match **List-I** with **List-II**

List-I	**List-II**
Technique	**Description**
(A). Study to analyze pools of DNA from an environmental sample containing organisms that have not been isolated and identified	(I). Proteomics
(B). Genome wide study of the structure, function and activity of organism's proteins	(II). Metagenomics
(C). Global study of transcription is done by monitoring the total RNA generated under chosen growth conditions	(III). Systems Biology
(D). The term used for integration of different fields of research to give an overview of an organism or a cell	(IV). Transcriptomics

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
3. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)

Options 1. 1

2. 2

3. 3

4. 4

Question Type : **MCQ**
Question ID : **1780701206**
Option 1 ID : **1780704781**
Option 2 ID : **1780704782**
Option 3 ID : **1780704783**
Option 4 ID : **1780704784**
Status : **Answered**
Chosen Option : **3**

Q.35

Arrange the steps followed in the differential Gram staining of bacteria.

(A). Add iodine solution for 1 minute

(B). Stain the smear with crystal violet for 1 minute

(C). Spread culture in thin film and air dry followed by heat fixing

(D). Counter stain the smear with safranin solution for 1-2 minutes

(E). Decolorize with alcohol briefly for 20 seconds

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D), (E)
2. (C), (B), (A), (E), (D)
3. (C), (A), (B), (D), (E)
4. (C), (B), (D), (E), (A)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701149**
Option 1 ID : **1780704553**
Option 2 ID : **1780704554**
Option 3 ID : **1780704555**
Option 4 ID : **1780704556**
Status : **Answered**
Chosen Option : **4**

Q.36

Arrange the following steps of polymerase chain reaction in correct sequence.

(A). Annealing

(B). Denaturation

(C). Cooling at 4 ^{o}C

(D). Extension

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D)
2. (A), (B), (D), (C)
3. (B), (A), (D), (C)
4. (B), (C), (D), (A)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701142**
Option 1 ID : **1780704525**
Option 2 ID : **1780704526**
Option 3 ID : **1780704527**
Option 4 ID : **1780704528**
Status : **Answered**
Chosen Option : **3**

Q.37

B cell maturation in birds occurs in:

1. Bone marrow
2. Bursa of fabricius
3. Thymus
4. Lymph node

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701209**
Option 1 ID : **1780704793**
Option 2 ID : **1780704794**
Option 3 ID : **1780704795**
Option 4 ID : **1780704796**
Status : **Answered**
Chosen Option : **1**

Q.38

Which of the following is not an asexual method of reproduction in fungi?

1. Gametangia
2. Arthrospores
3. Sporangiospores
4. Conidiospores

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701204**
Option 1 ID : **1780704773**
Option 2 ID : **1780704774**
Option 3 ID : **1780704775**
Option 4 ID : **1780704776**
Status : **Answered**
Chosen Option : **3**

Q.39

Which of the following statements about Denitrification are true?

(A). Atmospheric nitrogen is easily used as a source of nitrogen by bacteria than nitrate.

(B). Denitrification is conversion of nitrate to gaseous nitrogen compounds.

(C). Denitrification is a detrimental process for agriculture.

(D). Denitrification is a beneficial process in waste water treatment.

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. ((B), (C) and (D) only
3. (A), (B), (C) and (D)
4. (A), (B) and (C) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701161**
Option 1 ID : **1780704601**
Option 2 ID : **1780704602**
Option 3 ID : **1780704603**
Option 4 ID : **1780704604**
Status : **Answered**
Chosen Option : **4**

Q.40

Which of the following statements are true about human ABO blood groups?

(A). Glycosyltranferase enzyme is responsible for transfer of carbohydrate moiety on protein.

(B). Almost all individuals possess H substance.

(C). A antigen has one extra monosaccharide group N-acetylgalactosamine added to H substance.

(D). B antigen has one extra monosaccharide group galactose added to H substance.

Choose the ***correct*** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (A), (B), (C) and (D)
4. (B), (C) and (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701179**
Option 1 ID : **1780704673**
Option 2 ID : **1780704674**
Option 3 ID : **1780704675**
Option 4 ID : **1780704676**
Status : **Not Answered**
Chosen Option : **--**

Q.41

Arrange the following intermediates on the basis of their synthesis in citric acid cycle.

(A). Citrate

(B). Succinyl CoA

(C). α-ketoglutarate

(D). Oxaloacetate

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D)
2. (A), (C), (B), (D)
3. (B), (D), (A), (C)
4. (A), (D), (C), (B)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701190**
Option 1 ID : **1780704717**
Option 2 ID : **1780704718**
Option 3 ID : **1780704719**
Option 4 ID : **1780704720**
Status : **Answered**
Chosen Option : **2**

Q.42

What is the major activity occurring in germinal centers?

1. Somatic mutation
2. Antigen entrapment
3. Antibody production
4. Antigen presentation

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701186**
Option 1 ID : **1780704701**
Option 2 ID : **1780704702**
Option 3 ID : **1780704703**
Option 4 ID : **1780704704**
Status : **Not Answered**
Chosen Option : **--**

Q.43

Arrange the sequence of regulation of chemotaxis.

(A) Interaction with flagellar motor switch

(B) Adaptation

(C) Activation of response regulators

(D) Interaction of transducers and Che proteins

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D)
2. (C), (B), (D), (A)
3. (D), (C), (A), (B)
4. (B), (A), (D), (C)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701158**
Option 1 ID : **1780704589**
Option 2 ID : **1780704590**
Option 3 ID : **1780704591**
Option 4 ID : **1780704592**
Status : **Not Answered**
Chosen Option : **--**

Q.44

Name the phase of microbial growth cycle when there is no net increase or decrease in cell number.

1. Lag phase
2. Exponential phase
3. Stationary phase
4. Death phase

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701138**
Option 1 ID : **1780704509**
Option 2 ID : **1780704510**
Option 3 ID : **1780704511**
Option 4 ID : **1780704512**
Status : **Answered**
Chosen Option : **3**

Q.45

What are the functions of peroxisomes in the cell?

(A). Peroxisomes are the sites where oxidation of substrates takes place and hydrogen peroxide is formed.

(B). Peroxisomes harbor catalase enzyme which decomposes hydrogen peroxide.

(C). In plants and fungi, fatty acid oxidation takes place in the peroxisomes.

(D). In animal cells, fatty acid oxidation takes place in the peroxisomes and mitochondria.

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (A), (B), (C) and (D)
4. (B), (C) and (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701172**
Option 1 ID : **1780704645**
Option 2 ID : **1780704646**
Option 3 ID : **1780704647**
Option 4 ID : **1780704648**
Status : **Not Answered**
Chosen Option : **--**

Q.46

Solutes in the environment change the availability of water molecules to microbes. Microbiologists quantitatively estimate the degree of water availability by determining:

1. Water quantity (W_q)
2. Water available (W_a)
3. Water activity (a_w)
4. Water retention (r_w)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701168**
Option 1 ID : **1780704629**
Option 2 ID : **1780704630**
Option 3 ID : **1780704631**
Option 4 ID : **1780704632**
Status : **Answered**
Chosen Option : **3**

Q.47

Which of the following is not a mechanism of antimicrobial resistance?

1. Alteration of target
2. Efflux pumps
3. Inactivation of antibiotic
4. Development of a new susceptible biochemical pathway

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701189**
Option 1 ID : **1780704713**
Option 2 ID : **1780704714**
Option 3 ID : **1780704715**
Option 4 ID : **1780704716**
Status : **Not Answered**
Chosen Option : **--**

Q.48

Which of the following forms of DNA is produced with a DNA sequence made up from alternating purine and pyrimidine nucleotides?

(A). B form

(B). Z form

(C). A form

(D). C form

Choose the **correct** answer from the options given below:

1. (A) and (B) only
2. (B) only
3. (A) and (D) only
4. (A) and (C) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701205**
Option 1 ID : **1780704777**
Option 2 ID : **1780704778**
Option 3 ID : **1780704779**
Option 4 ID : **1780704780**
Status : **Not Answered**
Chosen Option : **--**

Q.49

Which of the following is an example of DNA containing virus?

1. Rabies virus
2. Polio virus
3. HIV Virus
4. Small pox virus

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701195**
Option 1 ID : **1780704737**
Option 2 ID : **1780704738**
Option 3 ID : **1780704739**
Option 4 ID : **1780704740**
Status : **Not Answered**
Chosen Option : **--**

Q.50

In a vector, antibiotic resistance is often used as a:

1. Screening marker
2. Selectable marker
3. Probe
4. Ori site marker

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701143**
Option 1 ID : **1780704529**
Option 2 ID : **1780704530**
Option 3 ID : **1780704531**
Option 4 ID : **1780704532**
Status : **Answered**
Chosen Option : **3**

Q.51

Match **List-I** with **List-II**

List-I	**List-II**
Interaction type	**Effect**
(A). Commensalism	(I). Where one population derives food from the host without causing death of the host
(B). Competition	(II). Population one is inhibited and other is not affected
(C). Amensalism	(III). One population benefits and other population (host) is not affected
(D). Parasitism	(IV). Each species is directly inhibited by the other

hoose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701187**
Option 1 ID : **1780704705**
Option 2 ID : **1780704706**
Option 3 ID : **1780704707**
Option 4 ID : **1780704708**
Status : **Answered**
Chosen Option : **2**

Q.52

Which of the following is not a feature of peptide bond?

1. Partial double bond character
2. Planar
3. Linear
4. Rigid

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701197**
Option 1 ID : **1780704745**
Option 2 ID : **1780704746**
Option 3 ID : **1780704747**
Option 4 ID : **1780704748**
Status : **Answered**
Chosen Option : **2**

Q.53

Arrange the following steps of complement activation in the correct order.

(A). Formation of C3 convertase

(B). Binding of C1 to Antigen antibody complex

(C). Formation of MAC

(D). C5 convertase formation

Choose the **correct** answer from the options given below:

1. (B), (A), (C), (D)
2. (C), (B), (A), (D)
3. (A), (B), (C), (D)
4. (B), (A), (D), (C)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701177**
Option 1 ID : **1780704665**
Option 2 ID : **1780704666**
Option 3 ID : **1780704667**
Option 4 ID : **1780704668**
Status : **Not Answered**
Chosen Option : **--**

Q.54

Which of the following is /are distinguishing features of group translocation?

(A). A molecule is chemically modified when transported into the cell.

(B). Molecule doesn't get modified during transport.

(C). Molecule gets phosphorylated during transport.

(D). It is a secondary active transport mechanism.

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (A) and (C) only
4. (C) and (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701203**
Option 1 ID : **1780704769**
Option 2 ID : **1780704770**
Option 3 ID : **1780704771**
Option 4 ID : **1780704772**
Status : **Not Answered**
Chosen Option : **--**

Q.55

What is the mode of action of alcohol as a sanitizer and disinfectant?

1. Alkylating agent
2. Oxidizing agent
3. Protein denaturant
4. Cationic surfactant

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701202**
Option 1 ID : **1780704765**
Option 2 ID : **1780704766**
Option 3 ID : **1780704767**
Option 4 ID : **1780704768**
Status : **Answered**
Chosen Option : **3**

Q.56

Match **List-I** with **List-II**

List-I	**List-II**
Microorganism	**Category**
(A). *Azotobacter*	(I). Free living nitrogen fixing phototrophic bacteria
(B). *Rhodobacter*	(II).Free living nitrogen fixing chemoorganotrophic bacteria
(C). *Rhizobium*	(III). Free living nitrogen fixing chemolithotrophic bacteria
(D). *Alcaligenes*	(IV). Symbiotic nitrogen fixing bacteria associated with peas

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701145**
Option 1 ID : **1780704537**
Option 2 ID : **1780704538**
Option 3 ID : **1780704539**
Option 4 ID : **1780704540**
Status : **Answered**
Chosen Option : **3**

Q.57

Which of the following statements is/ are applicable to fixed angle rotors?

(A). During rotor acceleration, reorientation of the sample and gradient occur.

(B). Sedimentation and separation of the particles occur during centrifugation.

(C). Bands of separated particles appear when the rotor is at rest.

(D). The centrifuge tube is filled with gradient and then loaded with sample.

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (A), (B), (C) and (D)
4. (B), (C) and (D) only

Options
1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701207**
Option 1 ID : **1780704785**
Option 2 ID : **1780704786**
Option 3 ID : **1780704787**
Option 4 ID : **1780704788**
Status : **Not Answered**
Chosen Option : **--**

Q.58

Match **List-I** with **List-II**

List-I	**List-II**
Amino acids	**Side chain type**
(A). Cys	(I). basic
(B). Asp	(II). nonpolar aromatic
(C). Trp	(III). acidic
(D). Arg	(IV). sulphur conatining

Choose the **correct** answer from the options given below:

1. (A) - (IV), (B) - (II), (C) - (III), (D) - (I)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701176**
Option 1 ID : **1780704661**
Option 2 ID : **1780704662**
Option 3 ID : **1780704663**
Option 4 ID : **1780704664**
Status : **Not Answered**
Chosen Option : **--**

Q.59

Which of the following is not a primary metabolite?

1. Enzymes
2. Antibiotics
3. Ethanol
4. Amino acids

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701201**
Option 1 ID : **1780704761**
Option 2 ID : **1780704762**
Option 3 ID : **1780704763**
Option 4 ID : **1780704764**
Status : **Not Answered**
Chosen Option : **--**

Q.60

The first cells to reach the site of inflammation are:

1. Neutrophils
2. Basophils
3. T cells
4. Macrophages

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701184**
Option 1 ID : **1780704693**
Option 2 ID : **1780704694**
Option 3 ID : **1780704695**
Option 4 ID : **1780704696**
Status : **Answered**
Chosen Option : **3**

Q.61

TCR of Cytotoxic T lymphocytes interacts with which of the following?

1. MHC-II
2. MHC-I
3. CD8
4. CD4

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701183**
Option 1 ID : **1780704689**
Option 2 ID : **1780704690**
Option 3 ID : **1780704691**
Option 4 ID : **1780704692**
Status : **Not Answered**
Chosen Option : **--**

Q.62

Arrange the steps for wastewater treatment processes in correct sequence.

(A). Screening and Sedimentation

(B). Anoxic digestion and oxidation

(C). Separation into soluble and insoluble components

(D). Drying and Disinfection of the two components

Choose the **correct** answer from the options given below:

1. (A), (C), (B), (D)
2. (A), (B), (C), (D)
3. (B), (D), (A), (C)
4. (C), (A), (B), (D)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701185**
Option 1 ID : **1780704697**
Option 2 ID : **1780704698**
Option 3 ID : **1780704699**
Option 4 ID : **1780704700**
Status : **Answered**
Chosen Option : **1**

Q.63

Match **List-I** with **List-II**

List-I	**List-II**
Enzyme	**Function**
(A). DNA Pol I	(I). Relaxes supercoils ahead of replication fork
(B). DNA gyrase	(II). Unwinds DNA double helix at replication fork
(C). DNA ligase	(III). Excises RNA primer and fills in gaps
(D). Helicase	(IV). Seals nicks in DNA

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701153**
Option 1 ID : **1780704569**
Option 2 ID : **1780704570**
Option 3 ID : **1780704571**
Option 4 ID : **1780704572**
Status : **Answered**
Chosen Option : **3**

Q.64

Which of the following technique is known as chain termination DNA sequencing method?

1. Maxum Gilbert sequencing
2. Sanger dideoxy DNA sequencing method
3. Next Generation sequencing
4. Shot gun sequencing

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701166**
Option 1 ID : **1780704621**
Option 2 ID : **1780704622**
Option 3 ID : **1780704623**
Option 4 ID : **1780704624**
Status : **Not Answered**
Chosen Option : **--**

Q.65

How many ATPs are produced on complete oxidation of 1 glucose molecule through oxidative phosphorylation and substrate-level phosphorylation?

1. 30 oxidative phosphorylation, 8 substrate-level phosphorylation
2. 34 oxidative phosphorylation, 4 substrate-level phosphorylation
3. 32 oxidative phosphorylation, 4 substrate-level phosphorylation
4. 33 oxidative phosphorylation, 2 substrate-level phosphorylation

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701151**
Option 1 ID : **1780704561**
Option 2 ID : **1780704562**
Option 3 ID : **1780704563**
Option 4 ID : **1780704564**
Status : **Not Answered**
Chosen Option : **--**

Q.66

Which of the following statements is/are true about agglutination?

(A). Excess antibody inhibits agglutination reactions.

(B). Coombs test works on the principle of agglutination.

(C). Agglutination reactions work only with soluble antigens.

(D). The antibody titer is the lowest dilution of serum at which agglutination is observed.

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A) and (B) only
3. (C) and (D) only
4. (B), (C) and (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701191**
Option 1 ID : **1780704721**
Option 2 ID : **1780704722**
Option 3 ID : **1780704723**
Option 4 ID : **1780704724**
Status : **Not Answered**
Chosen Option : **--**

Q.67

To purify RNA molecules, oligo dT containing matrix is used. This type of chromatography is:

1. Ion exchange chromatography
2. Affinity chromatography
3. Hydrophobic chromatography
4. Reverse phase chromatography

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701156**
Option 1 ID : **1780704581**
Option 2 ID : **1780704582**
Option 3 ID : **1780704583**
Option 4 ID : **1780704584**
Status : **Answered**
Chosen Option : **4**

Q.68

Arrange the replication cycle of a bacterial virus.

(A) Synthesis of nucleic acid and protein by host cell

(B) Penetration of virion

(C) Attachment of the virion to the host

(D) Assembly of capsid and packaging of genome into new virion

(E) Release of mature virions

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D), (E)
2. (A), (C), (B), (E), (D)
3. (C), (B), (A), (D), (E)
4. (C), (B), (D), (A), (E)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701159**
Option 1 ID : **1780704593**
Option 2 ID : **1780704594**
Option 3 ID : **1780704595**
Option 4 ID : **1780704596**
Status : **Answered**
Chosen Option : **1**

Q.69

Which of the following cause depletion of ozone layer?

1. Halogenated carbons, CFC, HCFC, HFC
2. Fluorinated carbons
3. Hydrocarbons
4. Photochemical products

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701181**
Option 1 ID : **1780704681**
Option 2 ID : **1780704682**
Option 3 ID : **1780704683**
Option 4 ID : **1780704684**
Status : **Answered**
Chosen Option : **1**

Q.70

Which of the following is not used as mobile phase in gas chromatography ?

1. Nitrogen
2. Helium
3. Oxygen
4. Hydrogen

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701164**
Option 1 ID : **1780704613**
Option 2 ID : **1780704614**
Option 3 ID : **1780704615**
Option 4 ID : **1780704616**
Status : **Not Answered**
Chosen Option : **--**

Q.71

Flow of genetic information from DNA to RNA is known as transcription. Which of the following represents RNA transcript sequence for the given DNA molecule?

5' - T T A G C C T C G T G T A A-3'

3' - A A T C G G A G C A C A T T- 5'

1. 5' - U U A G C C U C G U G U A A-3'
2. 3' - A A T C G G A G C A C A T T- 5'
3. 5' - A A T C G G A G C A C A T T- 3'
4. 3' - U U A G C C U C G U G U A A-5'

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701152**
Option 1 ID : **1780704565**
Option 2 ID : **1780704566**
Option 3 ID : **1780704567**
Option 4 ID : **1780704568**
Status : **Answered**
Chosen Option : **1**

Q.72

Which of the following is not a fermented food product?

(A). Sauerkraut

(B). Sake

(C). Soy Sauce

(D). Ragi

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (B) and (C) only
3. (C) and (D) only
4. (D) only

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701167**
Option 1 ID : **1780704625**
Option 2 ID : **1780704626**
Option 3 ID : **1780704627**
Option 4 ID : **1780704628**
Status : **Answered**
Chosen Option : **4**

Q.73

Which of the following is not a characteristic feature of actinomycetes?

1. Filamentous
2. High G+C content
3. Curved rods
4. Gram positive

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701170**
Option 1 ID : **1780704637**
Option 2 ID : **1780704638**
Option 3 ID : **1780704639**
Option 4 ID : **1780704640**
Status : **Not Answered**
Chosen Option : **--**

Q.74

Arrange the steps of binary fission in a rod shaped prokaryote in sequence.

(A). Cell elongation

(B). Cell separation

(C). Septum formation

(D). DNA replication

Choose the **correct** answer from the options given below:

1. (A), (C), (D), (B)
2. (D), (A), (C), (B)
3. (A), (B), (C), (D)
4. (C), (A), (D), (B)

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701182**
Option 1 ID : **1780704685**
Option 2 ID : **1780704686**
Option 3 ID : **1780704687**
Option 4 ID : **1780704688**
Status : **Not Answered**
Chosen Option : **--**

Q.75

In a dihybrid cross, if the percentage of recombinant trait is 20%, what will be the distance between the genes?

1. 2 map units/centimorgan
2. 10 map units/centimorgan
3. 20 map units/centimorgan
4. 5 map units/centimorgan

Options 1. 1
2. 2
3. 3
4. 4

Question Type : **MCQ**
Question ID : **1780701200**
Option 1 ID : **1780704757**
Option 2 ID : **1780704758**
Option 3 ID : **1780704759**
Option 4 ID : **1780704760**
Status : **Not Answered**
Chosen Option : **--**