GRADUATE APTITUDE TEST – BIOTECHNOLOGY
(GAT-B)
स्नातक योग्यता परीक्षा- जैवप्रौद्योगिकी
(जीएटी-बी)

Application Sequence No	
Roll No	
Participant Name	
Test Center Name	
Test Date	03/10/2020
Test Time	9:00 AM - 12:00 PM
Subject	GATB 2020
Marks Obtained*	182.50000

Note: * May change after Objection Management

Section : **Section A**

Q.1 Three pipes A, B and C can fill a tank from empty to full in 30 minutes, 20 minutes, and 10 minutes respectively. When the tank is empty, all the three pipes are opened. The time required to fill the tank (in minutes) will be

Ans
✗ 1. 8/11
✗ 2. 5/11
✓ 3. 60/11
✗ 4. 7/11

Question Type : **MCQ**
Question ID : **936082453**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.2 The hydrolysis of an ester in an acidic medium is an example of a

Ans
✓ 1. pseudo unimolecular reaction
✗ 2. second order reaction
✗ 3. bimolecular reaction
✗ 4. zero order reaction

Question Type : **MCQ**
Question ID : **936082410**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.3 Choose the correct statement

Ans

✔ 1. static friction is always greater than the sliding friction

✘ 2. coefficient of static friction is always less than coefficient of the sliding friction

✘ 3. limiting friction is always less than the sliding friction

✘ 4. static friction is equal to the sliding friction

Question Type : **MCQ**
Question ID : **936082417**
Status : **Answered**
Chosen Option : **3**
Marks : **-0.5**

Q.4 The most abundant enzyme present on the Earth is

Ans

✔ 1. Rubisco

✘ 2. lysozyme

✘ 3. trypsin

✘ 4. hexokinase

Question Type : **MCQ**
Question ID : **936082435**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.5 Father's age is four times that of his son Ronit. After 8 years, father would be two and a half times of Ronit's age. After another 8 years, how many times of Ronit's age would father's age be?

Ans

✔ 1. 2 times

✘ 2. 5 times

✘ 3. 3 times

✘ 4. 4 times

Question Type : **MCQ**
Question ID : **936082459**
Status : **Answered**
Chosen Option : **4**
Marks : **-0.5**

Q.6 Latent heat brings

Ans

✔ 1. no change in state of the material

✘ 2. about a change in the state of the material

✘ 3. about a decrease in temperature

✘ 4. about an increase in temperature

Question Type : **MCQ**
Question ID : **936082425**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.7 An airplane covers a certain distance at a speed of 240 kmph in 5 hours. To cover the same distance in $\frac{5}{3}$ hours, it must travel at a speed (in kmph) of

Ans
✔ 1. 720
✘ 2. 360
✘ 3. 300
✘ 4. 600

Question Type : **MCQ**
Question ID : **936082457**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.8 Which of the following statements about enzymes is correct?

Ans
✘ 1. they are chemical catalysts
✘ 2. they are not stereospecific
✔ 3. they are biological catalysts
✘ 4. they are always proteinaceous

Question Type : **MCQ**
Question ID : **936082404**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Q.9 Which of the following metals is used for galvanizing iron?

Ans
✘ 1. cobalt
✔ 2. zinc
✘ 3. copper
✘ 4. aluminium

Question Type : **MCQ**
Question ID : **936082403**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.10 The angle of contact in surface tension is

Ans
✘ 1. acute for liquids which do not wet the solid
✔ 2. obtuse for liquids which wet the solid
✘ 3. obtuse for liquids which do not wet the solid
✘ 4. independent of the nature of the liquid and the solid in contact

Question Type : **MCQ**
Question ID : **936082420**
Status : **Answered**
Chosen Option : **1**
Marks : **-0.5**

Q.11 Lactose is made up of

Ans
1. two glucose units
2. two maltose units
3. glucose and maltose
4. glucose and galactose ✓

Question Type : **MCQ**
Question ID : **936082406**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.12 Which of the following is composed of only one element?

Ans
1. cement
2. brass
3. diamond ✓
4. rust

Question Type : **MCQ**
Question ID : **936082402**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Q.13 The causative agent of sleeping sickness in human beings is an

Ans
1. intracellular parasite present in the plasma cells
2. extracellular parasite present in the gut lumen
3. extracellular parasite present in the blood plasma ✓
4. intracellular parasite present in the erythrocytes

Question Type : **MCQ**
Question ID : **936082431**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.14 The cell organelle, abundant in liver for detoxification of drugs and toxicants is

Ans
1. golgi complex
2. lysosomes
3. polysomes
4. smooth endoplasmic reticulum ✓

Question Type : **MCQ**
Question ID : **936082438**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.15 Proinsulin matures into active insulin by removal of

Ans

✗ 1. B-peptide chain

✓ 2. C-peptide sequence

✗ 3. B and C-peptide chains

✗ 4. A-peptide chain

Question Type : **MCQ**
Question ID : **936082440**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.16 The enzyme used to seal the sticky ends of restriction fragments is

Ans

✓ 1. DNA ligase

✗ 2. exonuclease

✗ 3. reverse transcriptase

✗ 4. endonuclease

Question Type : **MCQ**
Question ID : **936082443**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.17 Which of the following is a dimensionless quantity?

Ans

✗ 1. specific heat at constant volume

✗ 2. magnetic flux

✓ 3. amplification factor in electronics

✗ 4. Young's modulus

Question Type : **MCQ**
Question ID : **936082416**
Status : **Answered**
Chosen Option : **4**
Marks : **-0.5**

Q.18 Which of the following is NOT a practical example of capillary action?

Ans

✗ 1.
when one end of a towel is dipped in a bucket filled with water then after some time the entire towel becomes wet

✗ 2. ploughing a field helps retain moisture in it

✗ 3. writing nib is split in the middle

✓ 4. spreading of water on the surface of a table

Question Type : **MCQ**
Question ID : **936082421**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.19 Nylon-6 is made using

Ans
- ✗ 1. cyclohexanone
- ✓ 2. caprolactam
- ✗ 3. β-lactam
- ✗ 4. cyclohexene

Question Type : **MCQ**
Question ID : **936082408**
Status : **Answered**
Chosen Option : **1**
Marks : **-0.5**

Q.20 The electric and magnetic field components of an electromagnetic wave are

Ans
- ✓ 1. perpendicular to direction of propagation
- ✗ 2. independent of direction of propagation
- ✗ 3. parallel to direction of propagation
- ✗ 4. parallel to each other

Question Type : **MCQ**
Question ID : **936082426**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.21 In organic chemistry, Williamson synthesis is used for the synthesis of

Ans
- ✗ 1. ketones
- ✓ 2. ethers
- ✗ 3. aldehydes
- ✗ 4. alcohols

Question Type : **MCQ**
Question ID : **936082412**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.22 The enzyme encoded by lac-z gene in the lac operon helps in

Ans
- ✓ 1. breakdown of lactose into its monomers
- ✗ 2. repression of the transcription process
- ✗ 3. increasing cell permeability to lactose
- ✗ 4. transfer of an acetyl group to β-galactosidase

Question Type : **MCQ**
Question ID : **936082445**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.23 Which material has the highest conductivity?

Ans
✔ 1. copper
✘ 2. iron
✘ 3. glass
✘ 4. graphite

Question Type : **MCQ**
Question ID : **936082415**
Status : **Answered**
Chosen Option : **2**
Marks : **-0.5**

Q.24 A and B together have Rs. 1210. If $\frac{4}{15}$ of A's amount is equal to $\frac{2}{5}$ of B's amount, how much money does B have?

Ans
✘ 1. Rs. 460
✘ 2. Rs. 550
✔ 3. Rs. 484
✘ 4. Rs. 664

Question Type : **MCQ**
Question ID : **936082452**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Q.25 It is given that $(2^{32} + 1)$ is completely divisible by a whole number. Which of the following numbers is completely divisible by this number?

Ans
✘ 1. (7×2^{23})
✔ 2. $(2^{96} + 1)$
✘ 3. $(2^{16} - 1)$
✘ 4. $(2^{16} + 1)$

Question Type : **MCQ**
Question ID : **936082449**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.26 Rakesh purchased a horse for Rs. 3000 and sold it the same day for Rs. 3600, allowing the buyer a credit of 2 years. If the prevailing rate of interest is 10% per annum, then Rakesh has a net gain of

Ans
✔ 1. 0 %
✘ 2. 5 %
✘ 3. 10 %
✘ 4. 7.5 %

Question Type : **MCQ**
Question ID : **936082460**
Status : **Answered**
Chosen Option : **3**
Marks : **-0.5**

Q.27 If electric resistance has to be decreased, resistors have to be connected in

Ans
✔ 1. parallel
✘ 2. electric resistance cannot be decreased
✘ 3. mixed arrangement
✘ 4. series

Question Type : **MCQ**
Question ID : **936082430**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.28 Boyle's law relates to

Ans
✘ 1. elasticity of solids
✘ 2. plasticity of solids
✔ 3. kinetic theory of gases
✘ 4. viscosity of liquids

Question Type : **MCQ**
Question ID : **936082429**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Q.29 A bank offers 5% compound interest calculated on half-yearly basis. A customer deposits Rs. 1600 each on 1st January and 1st July of a year. At the end of the year, the amount he would have gained by way of interest is

Ans
✘ 1. Rs. 123
✘ 2. Rs. 120
✔ 3. Rs. 121
✘ 4. Rs. 122

Question Type : **MCQ**
Question ID : **936082458**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.30 In the first 10 overs of a cricket game, the run rate was 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?

Ans
✘ 1. 7
✘ 2. 6.5
✘ 3. 6.75
✔ 4. 6.25

Question Type : **MCQ**
Question ID : **936082448**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.31 An elaioplast is involved in

Ans
- ✔ 1. storage of fats or lipids
- ✘ 2. regulation of cellular osmolarity
- ✘ 3. imparting colour to the plants
- ✘ 4. metabolism of nitrogenous products

Question Type : **MCQ**
Question ID : **936082439**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.32 Which of the following travels as a longitudinal wave?

Ans
- ✘ 1. electromagnetic waves
- ✘ 2. heat waves
- ✔ 3. sound waves
- ✘ 4. light waves

Question Type : **MCQ**
Question ID : **936082423**
Status : **Answered**
Chosen Option : **1**
Marks : **-0.5**

Q.33 Genome of HIV is

Ans
- ✘ 1. dsRNA
- ✘ 2. ssDNA
- ✘ 3. dsDNA
- ✔ 4. ssRNA

Question Type : **MCQ**
Question ID : **936082434**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.34 A particle collides with another stationary particle of the same mass. If the collision is ideally elastic, the angle of divergence is

Ans
- ✘ 1. 60^0
- ✘ 2. 30^0
- ✔ 3. 90^0
- ✘ 4. 45^0

Question Type : **MCQ**
Question ID : **936082418**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.35 Choose the correctly matched pair of causative agents and the diseases they cause.

Ans

✗ 1. bacteria – AIDS, Syphilis, Typhoid

✓ 2. virus – Mumps, Measles, Polio

✗ 3. helminths – Elephantiasis, Ringworm, Yellow Fever

✗ 4. protozoa – Chicken pox, Sleeping sickness, Cholera

Question Type : **MCQ**
Question ID : **936082432**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.36 Tyndall effect is associated with

Ans

✗ 1. gases

✗ 2. amorphous solids

✓ 3. colloidal solutions

✗ 4. volatile solvents

Question Type : **MCQ**
Question ID : **936082405**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Q.37 The 'S' in the ribosomal subunits represents

Ans

✗ 1. differential solubility of the ribosomal proteins

✓ 2. differential sedimentation rates during centrifugation

✗ 3. number of single stranded ribosomal RNA

✗ 4. the source organism

Question Type : **MCQ**
Question ID : **936082444**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.38 A train running at a speed of 60 km/hr crosses a pole in 9 seconds. What is the length (in meters) of the train?

Ans

✓ 1. 150

✗ 2. 180

✗ 3. 120

✗ 4. 324

Question Type : **MCQ**
Question ID : **936082446**
Status : **Answered**
Chosen Option : **1**
Marks : **1**

Q.39 Gravitational forces are

Ans

✗ 1. inversely proportional to the cube of distance between the objects

✗ 2. directly proportional to the square of distance between the objects

✗ 3. directly proportional to the cube of distance between the objects

✓ 4. inversely proportional to the square of distance between the objects

Question Type : **MCQ**
Question ID : **936082419**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.40 A boat can travel with a speed of 13 km/hr in still water. If the speed of the stream is 4 km/hr, find the time taken by the boat to cover a distance of 68 km downstream.

Ans

✓ 1. 4 hours

✗ 2. 3 hours

✗ 3. 5 hours

✗ 4. 2 hours

Question Type : **MCQ**
Question ID : **936082450**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.41 Which area of chemistry is Nernst equation used in

Ans

✗ 1. metallurgy

✓ 2. electrochemistry

✗ 3. fermentation

✗ 4. organic synthesis

Question Type : **MCQ**
Question ID : **936082413**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.42 In solid-state physics, work function is

Ans

✗ 1. the maximum energy required for the emission of photoelectrons from a metal

✗ 2. of the order of hundreds of eV for most metals

✗ 3. of the order of thousands of eV for most metals

✓ 4. the minimum energy required for the emission of photoelectrons from a metal

Question Type : **MCQ**
Question ID : **936082428**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.43 Excessive fasting by a human being will lead to the presence of

Ans

✗ 1. excess albumin content

✓ 2. ketone bodies

✗ 3. calcium oxalate crystals

✗ 4. bilirubin pigment

Question Type : **MCQ**
Question ID : **936082436**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.44 Twenty tickets numbered from 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

Ans

✗ 1. 8/15

✓ 2. 9/20

✗ 3. 1/5

✗ 4. 2/5

Question Type : **MCQ**
Question ID : **936082454**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.45 RT-PCR is used to study

Ans

✗ 1. carbohydrate expression level

✗ 2. protein expression level

✓ 3. RNA expression level

✗ 4. secondary metabolite expression level

Question Type : **MCQ**
Question ID : **936082441**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Q.46 In a dihybrid cross, Mendel's Law of Independent Assortment can be best described by

Ans

✗ 1. YYRR x YyRr

✗ 2. YyRr x yyrr

✗ 3. YYRR x YYRR

✓ 4. YyRr x YyRr

Question Type : **MCQ**
Question ID : **936082433**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.47 A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?

Ans
- ✗ 1. 8.4
- ✓ 2. 7.2
- ✗ 3. 3.6
- ✗ 4. 10

Question Type : **MCQ**
Question ID : **936082451**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.48 The common structures in a bacterium, plant and an animal cell are

Ans
- ✗ 1. nucleus, plasma membrane, mitochondria
- ✓ 2. plasma membrane, ribosomes, cytoplasm
- ✗ 3. nucleus, cell wall, mitochondria
- ✗ 4. nucleus, plasma membrane, ribosomes

Question Type : **MCQ**
Question ID : **936082437**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.49 Mercury is used in thermometers because

Ans
- ✓ 1. it has high coefficient of expansion
- ✗ 2. it wets glass
- ✗ 3. it has a high specific heat
- ✗ 4. it has a low conductivity

Question Type : **MCQ**
Question ID : **936082424**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.50 The reaction, which occurs when two molecules of acetaldehyde react in the presence of aqueous NaOH, is called

Ans
- ✗ 1. Perkin condensation
- ✓ 2. aldol condensation
- ✗ 3. Cannizzaro's condensation
- ✗ 4. Reformatsky reaction

Question Type : **MCQ**
Question ID : **936082414**
Status : **Answered**
Chosen Option : **2**
Marks : **1**

Q.51 A man has Rs. 480 in the denominations of one-rupee notes, five-rupee notes and ten-rupee notes. The number of notes of each denomination is equal. What is the total number of notes he has?

Ans
1. 75 ✗
2. 45 ✗
3. 60 ✗
4. 90 ✓

Question Type : **MCQ**
Question ID : **936082455**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.52 The molarity of the solution prepared by dissolving 8 g NaOH in 250 mL of water will be

Ans
1. 0.4 M ✗
2. 4 M ✗
3. 0.25 M ✗
4. 0.8 M ✓

Question Type : **MCQ**
Question ID : **936082409**
Status : **Answered**
Chosen Option : **4**
Marks : **1**

Q.53 In which of the following cases, the periodic time of a simple pendulum would change?

Ans
1. if the surrounding temperature is changed ✗
2. if the amplitude of oscillation is changed ✗
3. if the length of the pendulum is changed ✓
4. if the mass of the bob is changed ✗

Question Type : **MCQ**
Question ID : **936082422**
Status : **Answered**
Chosen Option : **2**
Marks : **-0.5**

Q.54 What would be the volume of water that would fall on 1.5 hectares of ground when the rainfall is 5 cm?

Ans
1. 750 cu.m ✓
2. 7500 cu.m ✗
3. 75000 cu.m ✗
4. 75 cu.m ✗

Question Type : **MCQ**
Question ID : **936082456**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.55 How much NaCl is required to make 10 ml of 2 M NaCl solution?

Ans
1. 3.85 gm ✗
2. 38.5 gm ✗
3. 7.7 gm ✗
4. 1.17 gm ✓

Question Type : **MCQ**
Question ID : **936082407**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.56 Which of the following is an antibiotic?

Ans
1. aspirin ✗
2. cisplatin ✗
3. chloramphenicol ✓
4. valium ✗

Question Type : **MCQ**
Question ID : **936082411**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Q.57 Commonly, a diode valve is used in

Ans
1. oscillator ✗
2. clipper ✗
3. amplifier ✗
4. rectifier ✓

Question Type : **MCQ**
Question ID : **936082427**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.58 What is the relationship between edge lengths in a triclinic unit cell?

Ans
1. a not equal to b not equal to c ✓
2. a=b=c ✗
3. a=b not equal to c ✗
4. a not equal to b=c ✗

Question Type : **MCQ**
Question ID : **936082401**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.59 A sum of money at simple interest amounts to Rs. 815 in 3 years and to Rs. 854 in 4 years. The principal sum is

Ans
1. Rs. 650 ✗
2. Rs. 700 ✗
3. Rs. 698 ✓
4. Rs. 690 ✗

Question Type : **MCQ**
Question ID : **936082447**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.60 In ELISA technique, the formation of product is monitored as

Ans
1. conductivity of the solution ✗
2. fluctuation in temperature ✗
3. change in colour intensity ✓
4. amount of precipitate ✗

Question Type : **MCQ**
Question ID : **936082442**
Status : **Answered**
Chosen Option : **3**
Marks : **1**

Section : **Section B**

Q.1 Protein transport into the ER in mammalian cells is powered by

Ans
1. ATP hydrolysis ✗
2. ATP and CTP ✗
3. GTP hydrolysis ✓
4. GDP hydrolysis ✗

Question Type : **MCQ**
Question ID : **936082478**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.2 What is the number of hydrogen bonds in a double helical B-DNA structure of 100 base pairs with 20 adenines and 10 thymine in one of the two strands?

Ans
1. 270 ✓
2. 300 ✗
3. 230 ✗
4. 200 ✗

Question Type : **MCQ**
Question ID : **936082479**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.3 Percentage of sequence identity for the following aligned sequence is

```
1 V K S F L W T Q A L 10
1 V P S F R W T Q S L 10
  *   * *   * * * *   *
```

Ans

✗ 1. 80 %

✓ 2. 70 %

✗ 3. 10 %

✗ 4. 30 %

Question Type : **MCQ**
Question ID : **936082544**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.4 Which organelle is NOT present in an isolated cell protoplast?

Ans

✗ 1. nucleus

✗ 2. cell membrane

✗ 3. cytoplasm

✓ 4. cell wall

Question Type : **MCQ**
Question ID : **936082531**
Status : **Answered**
Chosen Option : **2**
Marks : **-1**

Q.5 Which of the following is the most abundant leukocyte?

Ans

✓ 1. neutrophil

✗ 2. basophil

✗ 3. B-lymphocyte

✗ 4. monocyte

Question Type : **MCQ**
Question ID : **936082462**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.6 Carbohydrate needs of 7.6 billion world's human population are provided by the members of a single plant family. Which is this plant family?

Ans

✗ 1. Solanaceae

✓ 2. Poaceae

✗ 3. Fabaceae

✗ 4. Amaranthaceae

Question Type : **MCQ**
Question ID : **936082535**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.7 Fatty acids cannot be converted into carbohydrates in the body as the following reaction is NOT possible

Ans

✔ 1. conversion of acetyl CoA to pyruvate

✘ 2. formation of acetyl CoA from fatty acids

✘ 3. conversion of glucose-6-phosphate into glucose

✘ 4. fructose 1, 6-bisphosphate to fructose-6- phosphate

Question Type : **MCQ**
Question ID : **936082505**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.8 Which of the following statements does NOT hold good for microbial production of penicillin by *Penicillum notatum*?

Ans

✔ 1. The process follows growth associated product formation kinetics

✘ 2. The process is carried out in fed-batch mode

✘ 3. Penicillin is recovered from the fermented broth by solvent extraction process

✘ 4. Penicillin is a secondary metabolite

Question Type : **MCQ**
Question ID : **936082556**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.9 Select the set of fat-soluble vitamins

Ans

✔ 1. Vit A, Vit D and Vit K

✘ 2. Vit B_6, Vit E and Vit K

✘ 3. Vit C, Vit K and Vit D

✘ 4. Vit C, Vit B_{12} and Vit A

Question Type : **MCQ**
Question ID : **936082473**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.10 mRNA in bacteria bind to ribosomes through the

Ans

✘ 1. Kozak sequence

✘ 2. binding is non-specific

✔ 3. Shine Dalgarno sequence

✘ 4. TATA box

Question Type : **MCQ**
Question ID : **936082487**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.11 Match the products, listed below, with the enzymes used for their commercial production.

Product	*Enzyme*
P. Aspartame	1. Lipase
Q. Lactose free milk	2. Chymosin
R. Cheese	3. Thermolysin
S. Cocoa butter substitute	4. Beta-galactosidase

Ans
✗ 1. P-2, Q-1, R-3, S-4
✗ 2. P-1, Q-3, R-2, S-4
✓ 3. P-3, Q-4, R-2, S-1
✗ 4. P-2, Q-3, R-1, S-4

Question Type : **MCQ**
Question ID : **936082555**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.12 DNA polymerase I has the following activities

Ans
✗ 1. 5′ to 3′ exonuclease
✗ 2. 5′ to 3′ polymerase
✓ 3. all of the given options are correct
✗ 4. 3′ to 5′ exonuclease

Question Type : **MCQ**
Question ID : **936082489**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.13 Plant gum is composed of different polysaccharides except

Ans
✗ 1. xylan
✓ 2. starch
✗ 3. galactan
✗ 4. galactomannan

Question Type : **MCQ**
Question ID : **936082540**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.14 Nitrogen fixation is the

Ans
✓ 1. conversion of N_2 to NH_3
✗ 2. conversion of N_2 to Urea
✗ 3. conversion of NH_3 & NO_3 to N_2
✗ 4. conversion of N_2 to N

Question Type : **MCQ**
Question ID : **936082536**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.15 Malaria disease is caused by

Ans
- ✗ 1. virus
- ✗ 2. fungus
- ✓ 3. protozoa
- ✗ 4. bacteria

Question Type : **MCQ**
Question ID : **936082498**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.16 During one round of TCA cycle, how many molecules of carbon dioxide are released?

Ans
- ✗ 1. 3
- ✗ 2. 1
- ✓ 3. 2
- ✗ 4. 4

Question Type : **MCQ**
Question ID : **936082509**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.17 Which of the following is a sequence alignment tool?

Ans
- ✗ 1. PIR
- ✗ 2. PROSITE
- ✗ 3. PRINT
- ✓ 4. BLAST

Question Type : **MCQ**
Question ID : **936082490**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.18 What is 'BR' in pBR322 plasmid?

Ans
- ✗ 1. Baltimore and Rogers
- ✓ 2. Bolivar and Rodriguez
- ✗ 3. Bacterial Resistance
- ✗ 4. Baltimore and Rodrigues

Question Type : **MCQ**
Question ID : **936082515**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.19 Which of the following molecules is NOT a secondary metabolite?

Ans
- ✗ 1. solasodine
- ✗ 2. anthocyanins
- ✗ 3. resveratrol
- ✓ 4. malonic acid

Question Type : **MCQ**
Question ID : **936082539**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.20 If the genotype of an individual is AABbCcddEEFF, how many types of gametes will be produced by this individual?

Ans
- ✗ 1. 16
- ✗ 2. 8
- ✗ 3. 32
- ✓ 4. 4

Question Type : **MCQ**
Question ID : **936082466**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.21 Which among the following is a character-based method for construction of phylogenetic tree?

Ans
- ✗ 1. UPGMA
- ✗ 2. Fitch-Margoliash
- ✓ 3. maximum parsimony
- ✗ 4. neighbor-joining

Question Type : **MCQ**
Question ID : **936082547**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.22 Phosphofructokinase-1 (PFK-1) is allosterically regulated by several effectors. Which of the following would allosterically inhibit the enzyme?

Ans
- ✓ 1. ATP
- ✗ 2. AMP
- ✗ 3. ADP
- ✗ 4. all of the given options are correct

Question Type : **MCQ**
Question ID : **936082506**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.23 Why is mitochondrial DNA considered to be the best marker for phylogenetic analysis?

Ans

✔ 1. mitochondrial DNA shows maternal inheritance

✘ 2. mitochondrial DNA evolves more slowly than the nuclear genes

✘ 3. mitochondrial genes are specific to mitochondrial DNA

✘ 4. mitochondrial DNA has lower mutation rate than nuclear DNA

Question Type : **MCQ**
Question ID : **936082532**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.24 The genome size of M13 bacteriophage is

Ans

✔ 1. 6.4 kb

✘ 2. 221 bp

✘ 3. 2.7 kb

✘ 4. 3.5 kb

Question Type : **MCQ**
Question ID : **936082461**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.25 Which of the following amino acids is most hydrophobic?

Ans

✘ 1. serine

✘ 2. cysteine

✔ 3. isoleucine

✘ 4. asparagine

Question Type : **MCQ**
Question ID : **936082543**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.26 The primary RNA transcript of the chicken ovalbumin gene is 7700 nucleotides long, but the mature mRNA that is translated on the ribosome is 1872 nucleotides long. This observation suggests that this gene is a

Ans

✔ 1. split gene

✘ 2. jumping gene

✘ 3. selfish gene

✘ 4. overlapping gene

Question Type : **MCQ**
Question ID : **936082474**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.27 Which of the following INCORRECTLY describes a molecule with a mass 1,000 times that of water?

Ans

1. 18,000 Daltons ✗
2. M_r 18,000 Daltons ✓
3. 18 kDa ✗
4. M_r 18,000 ✗

Question Type : **MCQ**
Question ID : **936082504**
Status : **Answered**
Chosen Option : **4**
Marks : **-1**

Q.28 TCA cycle operates under aerobic conditions. Reactions catalysed by which of the following enzyme requires participation of molecular oxygen?

Ans

1. Isocitrate dehydrogenase ✗
2. Succinate Dehydrogenase ✗
3. none of the TCA cycle enzyme requires participation of molecular oxygen ✓
4. Ketoglutarate dehydrogenase ✗

Question Type : **MCQ**
Question ID : **936082526**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.29 Several RNA viruses form replication complexes by utilizing membranes from the

Ans

1. endoplasmic reticulum ✓
2. nucleus ✗
3. late endosomes ✗
4. plasma membrane ✗

Question Type : **MCQ**
Question ID : **936082496**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.30 In a vector, *Hind*III and *Bam*HI restriction sites were present in the ampicillin resistance gene, while *Eco*RI and *Xho*I sites were present in the chloramphenicol resistance gene. A student cloned his insert DNA fragment using the *Hind*III and *Bam*HI sites. How will he select his recombinants?

Ans

✗ 1. by plating transformants on a plate containing both the antibiotics

✗ 2. recombinants cannot be differentiated from nonrecombinants

✗ 3. plating the transformants on a plate containing ampicillin and then replica plating on chloramphenicol containing plates

✓ 4. plating the transformants on a plate containing chloramphenicol and then replica plating on ampicillin containing plates

Question Type : **MCQ**
Question ID : **936082476**
Status : **Answered**
Chosen Option : **3**
Marks : **-1**

Q.31 The bond length of a peptide bond is

Ans

✓ 1. 1.32 Å

✗ 2. 1.49 Å

✗ 3. 2.01 Å

✗ 4. 1.27 Å

Question Type : **MCQ**
Question ID : **936082541**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.32 Addition of salt to a culture medium allows only the salt-tolerant bacteria to grow. This is an example of

Ans

✗ 1. differential media

✗ 2. enriched media

✗ 3. complex media

✓ 4. selective media

Question Type : **MCQ**
Question ID : **936082518**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.33 A coenzyme or metal ion that is very tightly or even covalently bound to the enzyme protein is called

Ans
- ✔ 1. prosthetic group
- ✘ 2. holoenzyme
- ✘ 3. apoenzyme
- ✘ 4. none of the given options is correct

Question Type : **MCQ**
Question ID : **936082514**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.34 Which of the following amino acids give yellow color on reaction with ninhydrin?

Ans
- ✘ 1. aspartic acid
- ✘ 2. valine
- ✘ 3. glycine
- ✔ 4. proline

Question Type : **MCQ**
Question ID : **936082465**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.35 Sequence comparisons do NOT provide information about

Ans
- ✘ 1. evolutionary history
- ✘ 2. functional relationship
- ✔ 3. gene locations
- ✘ 4. genetic relationships

Question Type : **MCQ**
Question ID : **936082491**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.36 Which of the following interactions are involved in stabilising the structure of protein?

Ans
- ✘ 1. ionic bonds
- ✘ 2. hydrogen-bonds
- ✔ 3. all of the given options are correct
- ✘ 4. hydrophobic interactions

Question Type : **MCQ**
Question ID : **936082529**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.37 Louis Pasteur is NOT associated with

Ans

✗ 1. introduction of Complex media

✗ 2. disproved spontaneous generation theory

✓ 3. discovery of *M. tuberculosis*

✗ 4. discovery of Rabies vaccine

Question Type : **MCQ**
Question ID : **936082522**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.38 Which of the following statements is true for the reversible competitive inhibition of an enzyme catalysed reaction?

Ans

✗ 1. the value of maximum reaction velocity decreases

✗ 2. the value of maximum reaction velocity remains unchanged

✗ 3. the value of Michaelis – Menten constant decreases

✓ 4. the value of Michaelis – Menten constant increases

Question Type : **MCQ**
Question ID : **936082553**
Status : **Answered**
Chosen Option : **2**
Marks : **-1**

Q.39 Enzymes involved in the electron transport system are mainly located

Ans

✗ 1. outside the mitochondria

✗ 2. in the mitochondrial matrix

✗ 3. in the intermembrane space

✓ 4. on the inner mitochondrial membrane

Question Type : **MCQ**
Question ID : **936082475**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.40 T-DNA carries which of the two phytohormone biosynthetic genes?

Ans

✓ 1. auxin and cytokinin

✗ 2. auxin and gibberellin

✗ 3. gibberellin and ethylene

✗ 4. cytokinin and gibberellin

Question Type : **MCQ**
Question ID : **936082533**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.41 The average length of the C-C single bond is

Ans
- ✗ 1. 0.154 µm
- ✗ 2. 0.154 A°
- ✗ 3. 1.54 µm
- ✓ 4. 0.154 nm

Question Type : **MCQ**
Question ID : **936082502**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.42 Horizontal gene transfer in bacteria can occur through

Ans
- ✗ 1. conjugation and transduction but not transformation
- ✗ 2. conjugation only
- ✓ 3. conjugation, transduction and transformation
- ✗ 4. conjugation and transformation but not transduction

Question Type : **MCQ**
Question ID : **936082493**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.43 The main role of carbohydrates in the cell membrane is

Ans
- ✓ 1. molecular recognition
- ✗ 2. modulating membrane fluidity
- ✗ 3. locomotion
- ✗ 4. adhesion

Question Type : **MCQ**
Question ID : **936082527**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.44 Shrinkage of protoplast from cell wall due to exosmosis caused by a hypertonic solution is called

Ans
- ✓ 1. plasmolysis
- ✗ 2. pinocytosis
- ✗ 3. invagination
- ✗ 4. phagocytosis

Question Type : **MCQ**
Question ID : **936082501**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.45 Which of the following antibiotics acts by inhibiting bacterial cell wall synthesis?

Ans
- ✗ 1. puromycin
- ✓ 2. penicillin
- ✗ 3. erythromycin
- ✗ 4. tetracycline

Question Type : **MCQ**
Question ID : **936082467**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.46 Choose the epimers from the following pair of sugars

Ans
- ✗ 1. glucose & sucrose
- ✓ 2. glucose & galactose
- ✗ 3. glucose & fructose
- ✗ 4. glucose & trehalose

Question Type : **MCQ**
Question ID : **936082512**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.47 In continuous fermenter reaction, the phenomenon of "wash-out" is obtained when

Ans
- ✓ 1. dilution rate is more than maximum specific growth rate
- ✗ 2. dilution rate is less than maximum specific growth rate
- ✗ 3. dilution rate is equal to half of maximum specific growth rate
- ✗ 4. wash-out has no relation with dilution rate

Question Type : **MCQ**
Question ID : **936082551**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.48 Which of the following class of enzymes do NOT participate in the glycolytic pathway?

Ans
- ✗ 1. isomerases
- ✓ 2. ligases
- ✗ 3. lyases
- ✗ 4. transferases

Question Type : **MCQ**
Question ID : **936082530**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.49 Most mitochondrial DNA (mtDNA) is inherited by the

Ans
1. sperm ✗
2. egg cells ✓
3. neither sperm nor egg cells ✗
4. stem cells ✗

Question Type : **MCQ**
Question ID : **936082477**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.50 There is a mutation in the lac operon repressor in *E. coli* which prevent its binding to the operator. What is likely to happen when level of glucose is low in the cell?

Ans
1. expression of the genes only when lactose is absent ✗
2. constitutive expression of the lac operon genes ✓
3. expression of the genes only when lactose is present ✗
4. lack of expression or reduced expression of the lac operon genes ✗

Question Type : **MCQ**
Question ID : **936082484**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.51 CRISPR/Cas9 system can be used for

Ans
1. directly editing amino acids ✗
2. editing lipid moieties ✗
3. editing carbohydrates ✗
4. editing nucleic acids ✓

Question Type : **MCQ**
Question ID : **936082500**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.52 The significance of a hit after a BLAST run is measured by

Ans
1. total score ✗
2. P- score ✗
3. max score ✗
4. e-value ✓

Question Type : **MCQ**
Question ID : **936082548**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.53 Base sequence variations between individuals that result from point mutations are called

Ans

✗ 1. small nuclear polymorphisms

✗ 2. restriction fragment length polymorphisms

✗ 3. polymorphs

✓ 4. single nucleotide polymorphisms

Question Type : **MCQ**
Question ID : **936082481**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.54 Baltimore classification of viruses is based on

Ans

✓ 1. nature of the viral nucleic acid

✗ 2. size and morphology

✗ 3. presence or absence of a lipid envelope

✗ 4. serology

Question Type : **MCQ**
Question ID : **936082497**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.55 A cDNA encoding a human protein of interest was cloned in a bacterial expression vector and introduced into bacterial cells for expression. But no expression of the human protein of interest was obtained. This could be because

Ans

✓ 1. of codon bias

✗ 2. bacterial ribosomes were unable to bind to the mRNA corresponding to the human protein of interest

✗ 3. of presence of introns in the gene encoding the human protein

✗ 4. *E. coli* RNA polymerase cannot transcribe the sequence encoding the human protein of interest

Question Type : **MCQ**
Question ID : **936082503**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.56 Denaturation of proteins leads to loss of biological activity mainly due to

Ans

✗ 1. loss of both primary and secondary structure

✗ 2. loss of primary structure

✓ 3. loss of secondary and tertiary structure

✗ 4. breaking of peptide bonds

Question Type : **MCQ**
Question ID : **936082507**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.57 Rushton disc turbine is widely used in stirred tank fermenters to mix the culture broths. The type of flow pattern generated by it is

Ans
- ✗ 1. tangential flow
- ✓ 2. radial flow
- ✗ 3. axial flow
- ✗ 4. laminar flow

Question Type : **MCQ**
Question ID : **936082560**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.58 PROCHECK is a

Ans
- ✗ 1. tool to calculate the molecular weight
- ✓ 2. tool to assess stereo-chemical quality of protein structures
- ✗ 3. protein Nucleotide database
- ✗ 4. protein structure prediction tool using homology modeling

Question Type : **MCQ**
Question ID : **936082550**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.59 The primary enzyme responsible for duplication of the chromosome in *E. coli* is

Ans
- ✗ 1. DNA polymerase IV
- ✗ 2. DNA polymerase II
- ✗ 3. DNA polymerase I
- ✓ 4. DNA polymerase III

Question Type : **MCQ**
Question ID : **936082485**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.60 Which of the following is an exception to the law of independent assortment?

Ans
- ✓ 1. linked genes
- ✗ 2. pleiotropy
- ✗ 3. non-disjunction
- ✗ 4. multiple alleles

Question Type : **MCQ**
Question ID : **936082495**
Status : **Answered**
Chosen Option : **1**
Marks : **3**

Q.61 Which enzyme is involved in repair of DNA damage induced by UV-light?

Ans

✗ 1. DNA glycosylase

✗ 2. all of the given options are correct

✗ 3. Photoligase

✓ 4. Photolyase

Question Type : **MCQ**
Question ID : **936082534**
Status : **Answered**
Chosen Option : **2**
Marks : **-1**

Q.62 Crystal structures of a protein is available with the following resolutions in the database. Which one would you choose for homology modelling and structure-based drug design?

Ans

✗ 1. 4.0 Å

✓ 2. 1.2 Å

✗ 3. 2.0 Å

✗ 4. 3.0 Å

Question Type : **MCQ**
Question ID : **936082546**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.63 A, B and Z DNA are, respectively,

Ans

✗ 1. left, right and left handed

✗ 2. left, left and right handed

✓ 3. right, right and left handed

✗ 4. right, left and right handed

Question Type : **MCQ**
Question ID : **936082486**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.64 Which of the following is a method to study time-dependent behavior of biological molecules?

Ans

✗ 1. molecular docking

✗ 2. molecular modeling

✗ 3. molecular designing

✓ 4. molecular dynamics simulations

Question Type : **MCQ**
Question ID : **936082549**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.65 Low expression of a protein is observed in a given tissue. Which of the following techniques will be used to determine whether the defect is at the transcriptional level or translational level?

Ans
✗ 1. Southern blot and Western blot
✗ 2. Dot blot and Southern blot
✓ 3. Northern blot and Western blot
✗ 4. Southern blot and Northern blot

Question Type : **MCQ**
Question ID : **936082470**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.66 Alpha helices in a protein usually do not contain certain amino acids which are also called helix breakers. Identify the correct pair of amino acids that is generally NOT found in Alpha helices.

Ans
✗ 1. glutamic acid & aspartic acid
✓ 2. glycine & proline
✗ 3. valine & proline
✗ 4. lysine & arginine

Question Type : **MCQ**
Question ID : **936082528**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.67 Which of the following is correct for double-stranded DNA?

Ans
✗ 1. purines = pyrimidines
✗ 2. A + C = G + T
✓ 3. all of the given options are correct
✗ 4. C + T = A + G

Question Type : **MCQ**
Question ID : **936082480**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.68 In the context of process control, a stable system is defined as

Ans
✗ 1. one for which input is bounded
✗ 2. one for which the output remains constant
✓ 3. one for which output response is bounded for all bounded inputs
✗ 4. one for which the input and the output remain constant

Question Type : **MCQ**
Question ID : **936082552**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.69 PDB contains information about

Ans
1. phylogenetic structure
2. genetic structure
3. tertiary structure
4. cell structure

Question Type : **MCQ**
Question ID : **936082542**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.70 An *E. coli* cell culture (1 ml) was diluted 10^6-fold and 200 µl of this was used for plating. After 24 h incubation, the colony forming units (CFU) was found as 150. The CFU count of the original culture is

Ans
1. 1.5×10^6
2. 3.0×10^6
3. 1.5×10^8
4. 7.5×10^8

Question Type : **MCQ**
Question ID : **936082554**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.71 In most cases, the immune cell that recognizes antigen in complex with MHC-I is

Ans
1. macrophage
2. B-cell
3. helper T cell
4. cytotoxic T cell

Question Type : **MCQ**
Question ID : **936082463**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.72 Polypeptide chains of the silk protein Fibroin are predominantly in Beta-sheet conformation and has higher number of the following amino acids

Ans
1. glycine and valine
2. glycine and proline
3. glycine and alanine
4. alanine and cysteine

Question Type : **MCQ**
Question ID : **936082513**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.73 A fermentation broth with viscosity of 10^{-2} Pa.s and density of 1000 $kg.m^{-3}$ is agitated in a 2.7 m^3 baffled tank using a Rushton turbine with diameter of 0.5 m and stirrer speed of 1 s^{-1}. The impeller Reynold's number for the vessel is

Ans
- ✗ 1. 2.7×10^4
- ✗ 2. 50,000
- ✓ 3. 2.5×10^4
- ✗ 4. 7.2×10^4

Question Type : **MCQ**
Question ID : **936082559**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.74 Pyruvate Dehydrogenase complex catalyses the formation of acetyl CoA from pyruvate. Which of the following describes the type of reaction that occurs?

Ans
- ✗ 1. acetylation
- ✓ 2. oxidative decarboxylation
- ✗ 3. oxidation-reduction
- ✗ 4. substrate-level phosphorylation

Question Type : **MCQ**
Question ID : **936082510**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.75 In addition to tuberculosis, Robert Koch is also known for the discovery of the causative organism for

Ans
- ✗ 1. Leprosy
- ✓ 2. Cholera
- ✗ 3. Rabies
- ✗ 4. Influenza

Question Type : **MCQ**
Question ID : **936082519**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.76 In microbiological studies, plaque assay is carried out for

Ans
- ✗ 1. isolation and typing of viruses
- ✗ 2. accessing the mutations in the virus
- ✗ 3. determining the size of virus
- ✓ 4. measuring the number of infectious virus units

Question Type : **MCQ**
Question ID : **936082524**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.77 Which is the hormone involved in closing stomata?

Ans
- ✗ 1. auxin
- ✓ 2. abscisic acid
- ✗ 3. gibberellic acid
- ✗ 4. cytokinin

Question Type : **MCQ**
Question ID : **936082538**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.78 An infectious RNA particle is known as

Ans
- ✗ 1. prion
- ✓ 2. viroid
- ✗ 3. virusoid
- ✗ 4. virion

Question Type : **MCQ**
Question ID : **936082520**
Status : **Answered**
Chosen Option : **4**
Marks : **-1**

Q.79 Which of the following techniques is the most appropriate for resolving the proteome of a bacterial cell?

Ans
- ✗ 1. SDS – PAGE electrophoresis
- ✗ 2. capillary electrophoresis
- ✓ 3. 2D – Gel electrophoresis
- ✗ 4. agarose electrophoresis

Question Type : **MCQ**
Question ID : **936082469**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.80 Which among the following is NOT an example of an RNA virus?

Ans
- ✗ 1. Ebola virus
- ✗ 2. Vesicular stomatitis virus
- ✗ 3. Rabies virus
- ✓ 4. SV40 virus

Question Type : **MCQ**
Question ID : **936082525**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.81 Agarose gel electrophoresis is routinely used for analysis of DNA preparations. Which of the following can NOT be achieved by this electrophoresis?

Ans
- ✗ 1. separation of different molecular conformations of a DNA molecule
- ✓ 2. DNA sequencing
- ✗ 3. studying DNA-protein interaction
- ✗ 4. resolving of DNA fragments of different lengths

Question Type : **MCQ**
Question ID : **936082521**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.82 Which of the following endonucleases is involved in post-transcriptional gene silencing?

Ans
- ✗ 1. Transcription activator-like effector nuclease
- ✗ 2. Cas9
- ✗ 3. Zinc finger nuclease
- ✓ 4. Dicer

Question Type : **MCQ**
Question ID : **936082494**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.83 To promote the attachment and spreading of anchorage dependent animal cells, the surface of the culture vessel needs to be coated with

Ans
- ✗ 1. collagen
- ✗ 2. trypsin
- ✓ 3. pronase
- ✗ 4. poly-ethylene glycol

Question Type : **MCQ**
Question ID : **936082558**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.84 In the presence of a competitive inhibitor, Km of an enzyme

Ans
- ✗ 1. remains unaffected
- ✓ 2. increases
- ✗ 3. decreases
- ✗ 4. initially decreases and then remains unchanged

Question Type : **MCQ**
Question ID : **936082511**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.85 Under aerobic conditions, what is the net yield of ATP molecules from beta-oxidation of one molecule of Palmitic acid?

Ans

✗ 1. 138

✗ 2. 28

✓ 3. 129

✗ 4. 118

Question Type : **MCQ**
Question ID : **936082516**
Status : **Answered**
Chosen Option : **4**
Marks : **-1**

Q.86 Which one of the following compound has the highest phosphoryl group transfer potential?

Ans

✗ 1. fructose-1, 6-diphosphate

✗ 2. adenosine triphosphate

✓ 3. phosphoenolpyruvate

✗ 4. glucose-6-phosphate

Question Type : **MCQ**
Question ID : **936082508**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.87 Which of the following diseases are transmitted by mosquito bite?

Ans

✗ 1. malaria / dengue / yellow fever / sleeping sickness

✓ 2. malaria / dengue / yellow fever / filariasis

✗ 3. sleeping sickness / malaria / dengue / flu

✗ 4. malaria / yellow fever / pneumonia / TB

Question Type : **MCQ**
Question ID : **936082482**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.88 In an enzyme catalyzed reaction, competitive inhibition can be overcome by increasing

Ans

✗ 1. the pH of the reaction

✗ 2. the concentration of enzyme

✓ 3. the concentration of substrate

✗ 4. the concentration of inhibitors

Question Type : **MCQ**
Question ID : **936082471**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.89 The process in which microbes are used to reduce the toxic industrial wastes or effluents is termed as

Ans
1. digestion ✗
2. precipitation ✗
3. bioremediation ✓
4. bioconversion ✗

Question Type : **MCQ**
Question ID : **936082483**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.90 The process of weakening a pathogen so that it cannot cause the disease is technically called

Ans
1. vaccination ✗
2. attenuation ✓
3. opsonization ✗
4. immunization ✗

Question Type : **MCQ**
Question ID : **936082499**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.91 Xeroderma pigmentosum is associated with defects in

Ans
1. direct reversal repair ✗
2. nucleotide excision repair ✓
3. base excision repair ✗
4. DNA mismatch repair ✗

Question Type : **MCQ**
Question ID : **936082492**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.92 You successfully cloned and expressed a gene coding for an antigenic protein from SARS-CoV-2 virus. But when you injected this recombinant viral protein in mice to generate functional neutralizing antibodies, you failed to get any neutralizing antibodies. What could be the most probable reason?

Ans
1. mice do not respond to SARS-CoV-2 antigens ✗
2. the purified protein was folded incorrectly ✓
3. the purified viral protein was truncated ✗
4. mice had a weak immune system ✗

Question Type : **MCQ**
Question ID : **936082517**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.93 Terminator technology in plants has been developed to

Ans
- ✗ 1. prevent biopiracy of medicinal plant products
- ✗ 2. fingerprinting crop genetic resources
- ✗ 3. ensure better bioprospecting of plant genetic resources
- ✓ 4. prevent unauthorized propagation of seeds

Question Type : **MCQ**
Question ID : **936082472**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.94 Baffles are introduced in a mechanically agitated bioreactor to

Ans
- ✓ 1. promote agitation and mixing of the fluid
- ✗ 2. increase the solubility of oxygen in the medium
- ✗ 3. enhance vortexing and swirling of the liquid
- ✗ 4. break the microbial cells

Question Type : **MCQ**
Question ID : **936082557**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.95 Hypophosphatemia is inherited as a X-linked dominant disorder. A normal male marries a heterozygous female affected with hypophosphatemia. What proportion of the offspring will manifest the disease?

Ans
- ✗ 1. all of the children
- ✗ 2. all the daughters and none of the sons
- ✗ 3. all the sons and none of the daughters
- ✓ 4. 50% sons and 50% daughters

Question Type : **MCQ**
Question ID : **936082468**
Status : **Answered**
Chosen Option : **4**
Marks : **3**

Q.96 Structural alignment is measured by

Ans
- ✓ 1. RMSD
- ✗ 2. Sequence identity
- ✗ 3. P-value
- ✗ 4. E-value

Question Type : **MCQ**
Question ID : **936082545**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.97 In the lac operon, promoter and operator refer to

Ans
- ✗ 1. binding sites for repressor and RNA polymerase
- ✗ 2. binding site for repressor and corepressor
- ✓ 3. binding sites for RNA polymerase and repressor
- ✗ 4. two binding sites for RNA polymerase

Question Type : **MCQ**
Question ID : **936082488**
Status : **Answered**
Chosen Option : **3**
Marks : **3**

Q.98 The protein coat covering the nucleic acid in a virus is called

Ans
- ✗ 1. viroid
- ✓ 2. capsid
- ✗ 3. peplomer
- ✗ 4. envelope

Question Type : **MCQ**
Question ID : **936082523**
Status : **Answered**
Chosen Option : **2**
Marks : **3**

Q.99 Seed dormancy can be broken by weakening the seed coat. This process is called

Ans
- ✓ 1. scarification
- ✗ 2. vernalization
- ✗ 3. stratification
- ✗ 4. photoperiodism

Question Type : **MCQ**
Question ID : **936082537**
Status : **Not Answered**
Chosen Option : **--**
Marks : **0**

Q.100 Which of the following is an antigen-presenting cell (APC)?

Ans
- ✗ 1. B-cell
- ✗ 2. macrophage
- ✓ 3. all of the given options are correct
- ✗ 4. dendritic cell

Question Type : **MCQ**
Question ID : **936082464**
Status : **Answered**
Chosen Option : **3**
Marks : **3**