

Osmania University Common Entrance Test

Question Paper Name:	M Sc Biotechnology 17th July 2019 Shift 1
Subject Name:	M.Sc. Biotechnology
Creation Date:	2019-07-17 11:40:28
Duration:	90
Total Marks:	100
Display Marks:	No
Share Answer Key With Delivery Engine:	Yes
Actual Answer Key:	Yes

M.Sc. Biotechnology

Group Number :	1
Group Id :	96128717
Group Maximum Duration :	0
Group Minimum Duration :	90
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0
Group Marks:	100

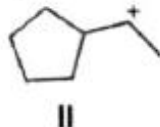
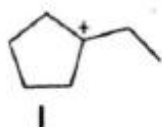
CHEMISTRY

Section Id :	96128718
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	40
Number of Questions to be attempted:	40
Section Marks:	40
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	96128723
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 9612871606 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Arrange the following carbocations in order of increasing stability.



Options :

1. I,II,III

2. I,III,II

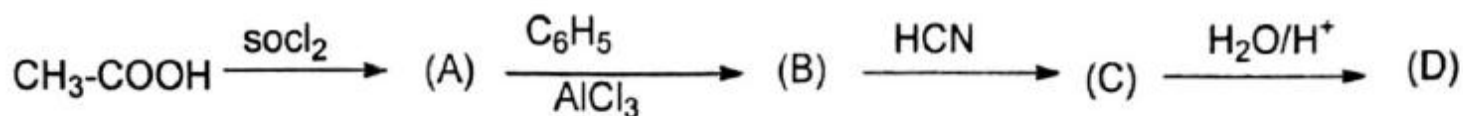
3. II,I,III

4. III,II,I

Question Number : 2 Question Id : 9612871607 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

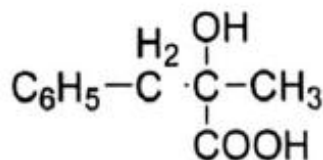
Correct Marks : 1 Wrong Marks : 0

In a set of reactions acetic acid yielded a product (D)

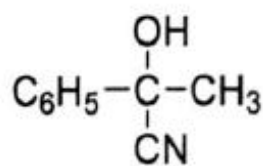


The structure of (D) would be

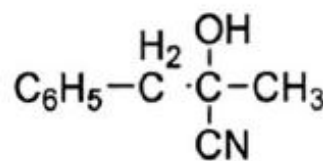
Options :



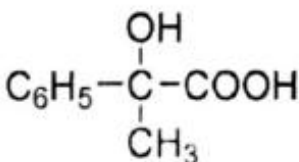
1.



2.



3.



4.

Question Number : 3 Question Id : 9612871608 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The relative energies of the various conformations of cyclohexane which one would be

Options :

1. Chair < boat < twist-boat < half-chair
2. Chair < half-boat < boat < twist-chair
3. Chair < twist-chair < boat < half-chair
4. Chair > twist-boat > boat > half-chair

Question Number : 4 Question Id : 9612871609 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cleavage of the cyclic ether tetra hydro furan with HI will produce

Options :

1. Ethyl iodide and ethanol
2. 4-Iodo – 1 – butanol
3. 1,4 Di Iodobutane
4. 1,4 – Butane diol

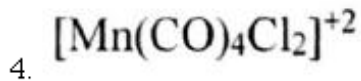
Question Number : 5 Question Id : 9612871610 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which one of the following molecule does not obey 18 electron rule

Options :

1. $[\text{Mn}(\text{CO})_6]$
2. $[\text{Cr}(\text{CO})_5]^{2-}$
3. $\text{Fe}(\text{CO})_5$



Question Number : 6 Question Id : 9612871611 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A $\text{C}_7\text{H}_{12}\text{O}_2$ compound gives a positive Tollen's silver mirror test and a positive iodoform test. Which of the following would satisfy these facts

Options :

1. 2-Hydroxy-3,3-dimethyl cyclopentanone.

2. 2,5-Heptane dione

3. 2,2-Dimethyl-3-oxo pentanol

4. 2,2-Dimethyl-4-oxo pentanal

Question Number : 7 Question Id : 9612871612 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The E^0_{cell} for the reaction $2\text{Fe}^{3+} + \text{Fe} \longrightarrow 2\text{Fe}^{2+}$ is 1.21 V at 298 K, ΔG^0 of the process is

Options :

1. -116.76 KJ

2. -350.29 KJ

3. -175.14 KJ

4. -233.53 KJ

Question Number : 8 Question Id : 9612871613 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In oxygen transport elements which are important are

Options :

1. Fe and Cu
2. Fe and Co
3. Fe and Mg
4. Fe and Mn

Question Number : 9 Question Id : 9612871614 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The order of reactivity of the following compounds in electrophilic substitution.

i) Chloro benzene ii) Aniline iii) Ethyl benzene iv) Benzoic acid

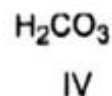
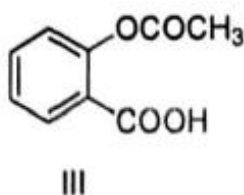
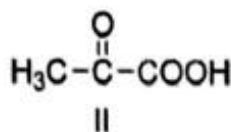
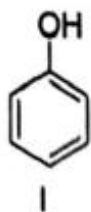
Options :

1. i > ii > iii > iv
2. ii > iii > i > iv
3. i > iii > iv > ii
4. ii > i > iv > iii

Question Number : 10 Question Id : 9612871615 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The correct order of increasing acidic strength of the following compounds



Options :

1. I < III < IV < II

I<IV<III<II

2.

II<IV<III<I

3.

4. IV<II<I<III

Question Number : 11 Question Id : 9612871616 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of possible resonance structures for anthracene would be

Options :

1. 6

2. 4

3. 5

4. 2

Question Number : 12 Question Id : 9612871617 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following are anomers

Options :

1. β -D-glucopyranose and β -L-glucopyranose

2. β -D-glucopyranose and β -D-glucofuranose

3. β -D-glucopyranose and α -D-glucopyranose

4. β -D-glucopyranose and β -L-glucopyranose, β -D-glucopyranose and β -D-glucofuranose, β -D-glucopyranose and α -D-glucopyranose

Question Number : 13 Question Id : 9612871618 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Among the following amino acids does not have an aromatic ring

Options :

1. Tyrosine

2. Proline

3. Histidine

4. Tryptophan

Question Number : 14 Question Id : 9612871619 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Rank the following substituents in order of increasing polarity in R/S

System

-OCH₃

-COOH

-CHO

-O-CH₂-CH₃

I

II

III

IV

Options :

1. II, III, IV, I

2. III, IV, I, II

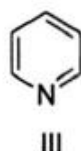
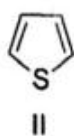
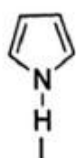
3. IV, III, II, I

4. IV, I, III, II

Question Number : 15 Question Id : 9612871620 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The decreasing order of reactivity of the following compounds towards electrophiles is



Options :

1. II > I > III

2. II > III > I

3. III > I > II

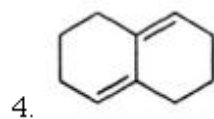
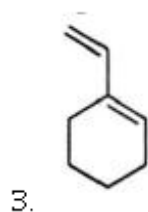
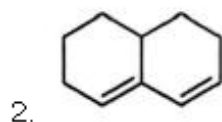
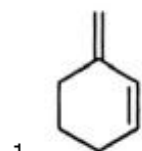
4. I > II > III

Question Number : 16 Question Id : 9612871621 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The diene which undergoes Diels-Alder reaction with maleic anhydride is

Options :



Question Number : 17 Question Id : 9612871622 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When a substance act as superconductor the magnetic flux is ejected out. Then the type of magnetic effect shown is

Options :

1. Josephson effect

2. Meissener effect

3. John – Teller effect

4. Perovskite effect

Question Number : 18 Question Id : 9612871623 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The pair of compounds and ions having the same hybridization for the central atom is

Options :

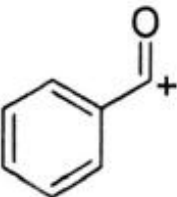
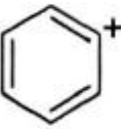
1. XeF_4 and $[\text{SF}_6]^{2-}$
2. $\text{Ni}(\text{CO})_4$ and XeO_2F_2
3. $[\text{NiCl}_4]^{-2}$ and $[\text{PtCl}_4]^{-2}$
4. $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$ and $\text{Co}(\text{NH}_3)_6]^{3+}$

Question Number : 19 Question Id : 9612871624 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the mass spectral fragmentation of acetophenone the base peak is due to.

Options :

1. CH_3^+
2. 
3. 
4. C_4H_3^+

Question Number : 20 Question Id : 9612871625 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of signals that are given by 1, 2- di methyl cyclopropane
In PMR is.

Options :

1. 2

2. 3

3. 4

4. 1

Question Number : 21 Question Id : 9612871626 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The μ_s value of $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$ in BM is

Options :

1. 1.73

2. 3.87

3. 2.32

4. 5.92

Question Number : 22 Question Id : 9612871627 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For any process the second law of thermodynamics requires that the change of entropy of the universe be

Options :

1. Positive only

2. Positive or zero

3. zero only

4. negative or zero

Question Number : 23 Question Id : 9612871628 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The average kinetic energy of an ideal gas per molecule in SI units at 25°C will be

Options :

1. $6.17 \times 10^{-21} \text{KJ}$
2. $6.17 \times 10^{-21} \text{J}$
3. $6.17 \times 10^{-20} \text{J}$
4. $7.16 \times 10^{-20} \text{J}$

Question Number : 24 Question Id : 9612871629 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In AgBr crystal, The ion size lies in the order $\text{Ag}^+ \ll \text{Br}^-$. The AgBr crystal should have the following characteristics.

Options :

1. Defect less crystal
2. Schottky defect
3. Frenkel defect
4. both Schottky and Franckel defects

Question Number : 25 Question Id : 9612871630 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

0.1 molar aqueous solution of NaBr freezes at -0.335°C at atmospheric pressure K_f for water is 1.86°C . The percentage of dissociation of the salt in solution is.

Options :

1. 90
2. 80
3. 58
4. 98

Question Number : 26 Question Id : 9612871631 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The relationships between osmotic pressure at 273 K when 10gms of glucose (P_1), 10gms of urea (P_2) and 10gms of sucrose (P_3) are dissolved in 250ml of water is.

Options :

1. $P_1 > P_2 > P_3$
2. $P_3 > P_2 > P_1$
3. $P_2 > P_3 > P_1$
4. $P_2 > P_1 > P_3$

Question Number : 27 Question Id : 9612871632 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The minimum flocculation power of $KCl, MgCl_2, CrCl_3, SnCl_4$ for a positively charged sol are in the order of

Options :

1. $KCl < MgCl_2 < CrCl_3 < SnCl_4$
2. $KCl = MgCl_2 = CrCl_3 < SnCl_4$
3. $MgCl_2 < KCl < CrCl_3 < SnCl_4$
4. $SnCl_4 < CrCl_3 < MgCl_2 < KCl$

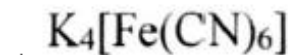
Question Number : 28 Question Id : 9612871633 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which is more powerful to coagulate the negative colloid.

Options :

1. Na_3PO_4
2. $ZnSO_4$
3. $AlCl_3$



Question Number : 29 Question Id : 9612871634 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For the reaction $2N_2O_5 (s) \longrightarrow 4NO_2 (g) + O_2 (g)$ if the concentration of NO_2 increases by $5.2 \times 10^{-3} M$ in 100 s then the rate of reaction is.

Options :

1. $2 \times 10^{-3} M s^{-1}$
2. $7.6 \times 10^{-4} M s^{-1}$
3. $5 \times 10^{-4} M s^{-1}$
4. $1.3 \times 10^{-5} M s^{-1}$

Question Number : 30 Question Id : 9612871635 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Among the conjugate bases of oxyacids of chlorine, the stability order is.

Options :

1. $OCI^- > ClO_2^- > ClO_3^- > ClO_4^-$
2. $OCI^- < ClO_2^- < ClO_3^- < ClO_4^-$
3. $ClO_2^- > OCI^- > ClO_3^- > ClO_4^-$
4. $ClO_2^- < OCI^- < ClO_3^- < ClO_4^-$

Question Number : 31 Question Id : 9612871636 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The structure of silicates in which three oxygen atoms of $[SiO_4]^{-4}$ are shared as.

Options :

1. Pyrosilicate
2. Sheet silicate

3. Linear chain silicate

4. Three dimensional silicate

Question Number : 32 Question Id : 9612871637 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Xenon hexa fluoride reacts with silica to form a compound "X". The oxidation state of Xenon in "X" is.

Options :

1. 0

2. +4

3. +6

4. +2

Question Number : 33 Question Id : 9612871638 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For d block elements, the first ionization potential is of the order

Options :

1. $V > Cr > Mn > Fe$

2. $Sc = Ti < V = Cr$

3. $Zn > Fe > Cu > Cr$

4. $Zn < Cu < Ni < Co$

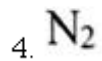
Question Number : 34 Question Id : 9612871639 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The species having bond order different from that of CO is.

Options :

1. NO^+

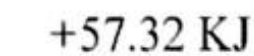
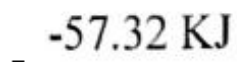
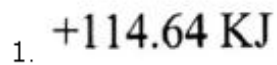


Question Number : 35 Question Id : 9612871640 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When 1M H_2SO_4 is completely neutralized by sodium hydroxide, the heat liberated is 114.64 KJ. The enthalpy of neutralization is.

Options :



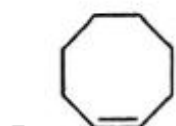
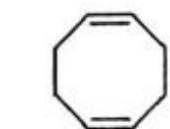
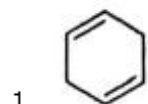
Question Number : 36 Question Id : 9612871641 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The product of the following reaction is.



Options :



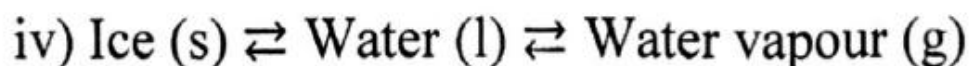
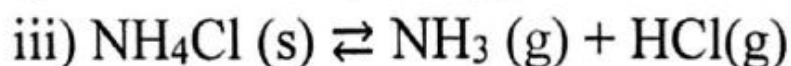
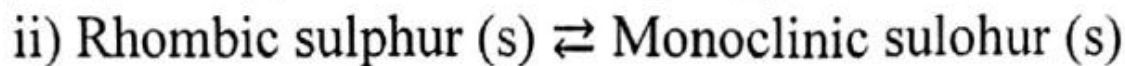


4.

Question Number : 37 Question Id : 9612871642 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of phases present in the following systems would be.



Options :

1. 3, 2, 2, 2

2. 3, 2, 2, 2, 4

3. 3, 2, 2, 3

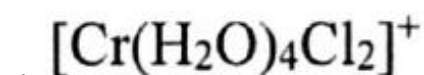
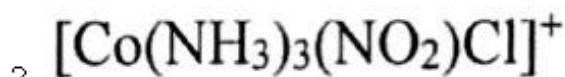
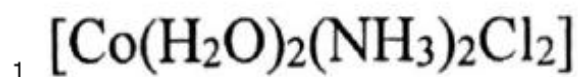
4. 3, 2, 2, 1

Question Number : 38 Question Id : 9612871643 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Among the following complexes, optical activity is possible in.

Options :



Question Number : 39 Question Id : 9612871644 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The separation of lanthanides in ion exchange method is based on.

Options :

1. Oxidation state of the ion
2. Size of the hydrate ions
3. Basicity of lanthanides
4. The solubility of their nitrates

Question Number : 40 Question Id : 9612871645 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following borderline acids

Options :

1. $\text{Cr}^{3+}, \text{Co}^{3+}$
2. $\text{Ni}^{2+}, \text{Cu}^{2+}$
3. $\text{Pt}^{2+}, \text{Pd}^{2+}$
4. $\text{Cd}^{2+}, \text{Hg}^{2+}$

Biotechnology

Section Id :	96128719
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	60
Number of Questions to be attempted:	60
Section Marks:	60
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number: 1
Sub-Section Id: 96128724
Question Shuffling Allowed : Yes

Question Number : 41 Question Id : 9612871646 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The primary cell wall of plants is composed of

Options :

1. Cellulose, hemicellulose and lignin
2. Cellulose, hemicellulose and pectin
3. Cellulose, pectin and lignin
4. Hemicellulose, pectin and lignin

Question Number : 42 Question Id : 9612871647 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Genetic balance theory of sex determination was proposed by

Options :

1. Bridges
2. Morgan
3. Boveri
4. Wilkins

Question Number : 43 Question Id : 9612871648 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The major events of mitotic prophase include all of the following except

Options :

1. Chromosome coiling
2. DNA replication
3. Nuclear envelope breakdown

4. Nucleolar disaggregation

Question Number : 44 Question Id : 9612871649 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An example of trisomy

Options :

1. Down syndrome
2. Turner's syndrome
3. Jacobsen syndrome
4. Klinefelter's syndrome

Question Number : 45 Question Id : 9612871650 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following cell organelles actively participates in animal apoptosis

Options :

1. Vacuoles
2. Chloroplast
3. Nucleus
4. Mitochondria

Question Number : 46 Question Id : 9612871651 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The type of chromosomal aberration which does not change the number of genes is

Options :

1. Deletion
2. Duplication
3. Translocation

4. Inversion

Question Number : 47 Question Id : 9612871652 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A female with XXXX will have the following number of Barr bodies

Options :

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

Question Number : 48 Question Id : 9612871653 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Carriers of the colour-blindness trait include

Options :

1. Men who are heterozygous for the trait
2. Men who are homozygous for the trait
3. Women who are heterozygous for the trait
4. Women who are homozygous for the trait

Question Number : 49 Question Id : 9612871654 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Chemical name of thymine is

Options :

1. 2- oxy 4-amino pyrimidine
2. 2, 4 dioxy-5-methyl pyrimidine
3. 2,4 dioxy pyrimidine
4. 4-amino pyrimidine

Question Number : 50 Question Id : 9612871655 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a given nucleic acid $G+A$ is not equal to $C+T$ this indicate that the sample is

Options :

1. AT rich
2. GC rich
3. ss DNA
4. ds DNA

Question Number : 51 Question Id : 9612871656 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Replication of DNA in eukaryotes commences from

Options :

1. One end of chromatid extending to the other end
2. Both ends of the chromatid simultaneously
3. The centromere to either of the ends of chromatids
4. Several sites of the DNA of the chromatids simultaneously

Question Number : 52 Question Id : 9612871657 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is involved in relaxation of negatively supercoiled DNA

Options :

1. DNA gyrase
2. Topoisomerase I
3. Primase
4. DNA ligase

Question Number : 53 Question Id : 9612871658 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Mark the correct statement about transposons

Options :

1. Insert into DNA by Homologous recombination
2. Cannot be transferred by phage mediated transduction
3. Contain the equivalent of insertion elements
4. Can insert into plasmids but not the bacterial chromosome

Question Number : 54 Question Id : 9612871659 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a mutational event when an adenine is replaced by guanine it is a case of

Options :

1. Transition
2. Transcription
3. Transversion
4. Frame shift mutation

Question Number : 55 Question Id : 9612871660 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Nucleotide excision repair of DNA in *E.coli*

Options :

1. Replaces both strands of the DNA in the damaged region
2. Uses high energy phosphate bonds
3. Utilizes RNA polymerase to make primer
4. Requires uvrABC excinuclease

Question Number : 56 Question Id : 9612871661 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In *E.coli* which of the following repair system is most error-prone

Options :

1. Photoactivation
2. SOS repair
3. Excision repair
4. Recombinational repair

Question Number : 57 Question Id : 9612871662 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is a protein sequence database

Options :

1. EMBL
2. DDBJ
3. PIR
4. GenBank

Question Number : 58 Question Id : 9612871663 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is a sequence alignment tool

Options :

1. BLAST
2. PROSITE
3. PIR
4. PRINT

Question Number : 59 Question Id : 9612871664 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Mark the correct statement about protein secondary structure

Options :

1. An α -helix is primarily stabilized by ionic interactions between the side chains of amino acids
2. β -sheets exist only in antiparallel form
3. β -turns often contain proline
4. An α -helix can be composed of more than one polypeptide chain

Question Number : 60 Question Id : 9612871665 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Blocking action of enzyme through blocking its active site refers to

Options :

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

Question Number : 61 Question Id : 9612871666 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which pair of amino acids will have the highest absorbance at 280nm

Options :

1. Thr and His
2. Phe and Pro
3. Trp and Tyr
4. Phe and His

Question Number : 62 Question Id : 9612871667 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The degree of unsaturation of lipids can be measured as

Options :

1. Saponification number
2. Polenske number
3. Reichert meissil number
4. Iodine number

Question Number : 63 Question Id : 9612871668 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When all the monosaccharides in a polysaccharide are same type, such type of polysaccharide is called a

Options :

1. Glycogen
2. Homoglycan
3. Heteroglycan
4. Oligosaccharide

Question Number : 64 Question Id : 9612871669 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When standard deviation (σ) is known, the hypothesis about population mean is tested by

Options :

1. t-test
2. Z-test
3. χ^2 -test
4. F-test

Question Number : 65 Question Id : 9612871670 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is incorrect about paired t –test?

Options :

1. The dependent variable must be continuous (interval/ratio)
2. In a paired sample t-test, each subject or entity is measured twice
3. The observations are independent of one another
4. The dependent variable must be categorical

Question Number : 66 Question Id : 9612871671 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For each glucose molecule that is broken down in glycolysis there is a net gain of

Options :

1. 1 ATP
2. 2 ATP
3. 3 ATP
4. 4 ATP

Question Number : 67 Question Id : 9612871672 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Beer Lambert's law gives the relation between which of the following?

Options :

1. Reflected radiation and concentration
2. Scattered radiation and concentration
3. Energy absorption and concentration
4. Energy absorption and reflected radiation

Question Number : 68 Question Id : 9612871673 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The function of TCA cycle is characterized by all of the statements except

Options :

1. It generates reduced NAD^+ and reduced FAD
2. It generates guanosine triphosphate
3. It catalyzes the complete oxidation of acetate to carbon dioxide and water
4. It causes the net synthesis of oxaloacetate from acetylCoA

Question Number : 69 Question Id : 9612871674 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Molecules oxidized in electron transport chain are

Options :

1. ADP
2. NADH
3. FADH
4. Both NADH and FADH

Question Number : 70 Question Id : 9612871675 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Transamination reaction in amino acid synthesis is catalyzed by

Options :

1. Nitric oxide synthase
2. Decarboxylase
3. Glutamate decarboxylase
4. Aminotransferase

Question Number : 71 Question Id : 9612871676 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following cofactor is essential for the activity of acetyl CoA corboxylase

Options :

1. NAD⁺
2. Biotin
3. TPP
4. vitB₆

Question Number : 72 Question Id : 9612871677 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Beta Oxidation of long chain fatty acids occurs primarily in which of the locations

Options :

1. Cytosol
2. Peroxisomes
3. Mitochondria
4. Endoplasmic reticulum

Question Number : 73 Question Id : 9612871678 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In an Agarose Gel Electrophoresis which of the following is true

Options :

1. DNA migrates towards the negative electrode
2. Supercoiled plasmids migrate slower than their nicked forms
3. Larger molecules migrate faster than smaller molecules
4. Ethidium bromide can be used to visualize the DNA

Question Number : 74 Question Id : 9612871679 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is an effective way of purifying liquids containing suspensions?

Options :

1. Crystallization
2. Decanting
3. Centrifugation
4. Separating funnel

Question Number : 75 Question Id : 9612871680 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Bacteria cell wall made of

Options :

1. Chitin
2. Cellulose
3. Textran
4. Peptidoglycon

Question Number : 76 Question Id : 9612871681 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The organisms that can be acid-fast stained is

Options :

1. *Nocardia*
2. *Mycobacterium tuberculosis*
3. *Mycobacterium leprae*
4. *Nocardia* , *Mycobacterium tuberculosis* , *Mycobacterium leprae*

Question Number : 77 Question Id : 9612871682 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Phase of bacterial growth in which bacterial parent cell does not divide but metabolic activity is vigorous, named as

Options :

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

Question Number : 78 Question Id : 9612871683 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the cells involved in adaptive immunity

Options :

1. B cells
2. T cells
3. B cells and T cells
4. Macrophages and NK cells

Question Number : 79 Question Id : 9612871684 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following statement is correct

Options :

1. Helper T cells express surface CD8 receptor
2. Cytotoxic T cells express surface CD4 receptors
3. Helper T cells express surface IgG molecule
4. Cytotoxic T cells express surface CD8 molecule

Question Number : 80 Question Id : 9612871685 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

A molecule that react with specific antibody but is not immunogenic by itself called

Options :

1. Hapten
2. Antigen
3. Carrier
4. Immunogen

Question Number : 81 Question Id : 9612871686 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which immunoglobulin can pass through placenta?

Options :

1. IgD
2. IgE
3. IgM
4. IgG

Question Number : 82 Question Id : 9612871687 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Antigen binding sites of an immunoglobulin are located in

Options :

1. Light chain alone
2. Heavy chains alone
3. FC region of the antibody
4. Fab region of the antibody

Question Number : 83 Question Id : 9612871688 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the role of the Promoter region of a gene?

Options :

1. It is the site where the ribosome binds to the mRNA
2. It is the site where the RNA polymerase binds to the DNA
3. It is the site where DNA polymerase binds to the DNA
4. It is the site where Shine-Dalgarno sequence present

Question Number : 84 Question Id : 9612871689 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statement about Bacterial RNA polymerase is incorrect

Options :

1. The Holoenzyme includes the sigma factor
2. The Core enzyme includes the sigma factor
3. It requires Mg^{2+} for its activity
4. It requires Zn^{2+} for its activity

Question Number : 85 Question Id : 9612871690 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Wobble hypothesis refers to the less stringent base pairing specificity of

Options :

1. 5' end base of the codon
2. 3' end base of the anticodon
3. Middle base of the codon
4. 5' end base of the anticodon

Question Number : 86 Question Id : 9612871691 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In case of inducible lac operon, the transcription is inhibited by

Options :

1. The binding of repressor to operator
2. The presence of lactose
3. The interaction of repressor with lactose
4. The interaction of lactose with operator

Question Number : 87 Question Id : 9612871692 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following is not a post-transcriptional modification

Options :

1. Splicing
2. 5' Capping
3. 3' Adeylation
4. Glycosylation

Question Number : 88 Question Id : 9612871693 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Shine-Dalgarno sequence of mRNA is helpful in

Options :

1. Recognition of 50S ribosomal subunit
2. Recognition of 60S ribosomal subunit
3. Recognition of 5S rRNA
4. Recognition of 30S ribosomal subunit

Question Number : 89 Question Id : 9612871694 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following is true about restriction endonucleases?

Options :

1. Type I and II requires ATP to move along DNA
2. Type I, II and III requires ATP to move along DNA
3. Type II requires no ATP and cleaves DNA within recognition sequence
4. Type II requires ATP and cleaves DNA within recognition sequence

Question Number : 90 Question Id : 9612871695 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following property is not associated with DNA polymerase I

Options :

1. 3'-5' exonuclease activity
2. 5'-3' exonuclease activity
3. 5'-3' endonucleases activity
4. 5'-3' polymerase activity

Question Number : 91 Question Id : 9612871696 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The gene formed by joining DNA segments from two different sources is called

Options :

1. Recombinant gene
2. Fragment gene
3. Joined gene
4. Chimaeric gene

Question Number : 92 Question Id : 9612871697 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The virus mediated gene transfer using genetically modified bacteriophages is called

Options :

1. Transfection
2. Transduction
3. Transformation
4. Conjugation

Question Number : 93 Question Id : 9612871698 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

For cloning a DNA segment larger than 100 kb , which of the following would be suitable

Options :

1. Plasmid
2. Cosmid
3. YAC
4. Lambda bacteriophage

Question Number : 94 Question Id : 9612871699 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Agrobacterium tumefaciens is a

Options :

1. Gram negative soil bacterium causing crown gall disease in monocots
2. Gram negative soil bacterium causing crown gall disease in dicots
3. Gram positive soil bacterium causing crown gall disease in monocots
4. Gram negative soil bacterium causing crown gall disease in dicots

Question Number : 95 Question Id : 9612871700 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Primer used for the process of polymerase chain reaction are

Options :

1. Single stranded DNA oligonucleotide
2. Double stranded DNA oligonucleotide
3. Single stranded RNA oligonucleotide
4. Double stranded RNA oligonucleotide

Question Number : 96 Question Id : 9612871701 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the correct sequence during the industrial production of substances

Options :

1. Inoculation, screening, fermentation, downstream processing, removal of waste
2. Screening, Inoculation, fermentation, downstream processing, removal of waste
3. Fermentation, screening, inoculation, removal of waste, downstream processing
4. Fermentation, inoculation, inoculation, removal of waste, downstream processing

Question Number : 97 Question Id : 9612871702 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The major organism used in the industrial production of citric acid is

Options :

1. *Penicillin notatum*
2. *Rhizopus nigrificians*
3. *Aspergillus niger*
4. *Lactobacillus delbrueckii*

Question Number : 98 Question Id : 9612871703 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Maturation of beer is carried out at

Options :

1. 14°C
2. 10°C
3. 6°C
4. 2°C

Question Number : 99 Question Id : 9612871704 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The subunit vaccine for hepatitis B is created against

Options :

1. Surface protein
2. Core protein
3. Genome
4. Whole virus

Question Number : 100 Question Id : 9612871705 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Industrial production of vitamin B12 is from

Options :

1. *Propionibacterium* sps
2. *Pseudomonas* sps
3. *Aspergillus* sps
4. *Propionibacterium* sps , *Pseudomonas* sps