

## DU MSc PhD Comb degree in Bio Sci N MSc in Bio Sci

Topic:- BIOSCI MSC S2

1) Balbiani Rings occur in

[Question ID = 9207]

1. Autosomes [Option ID = 36822]
2. Heterosomes [Option ID = 36823]
3. Polytene chromosomes [Option ID = 36824]
4. Lampbrush chromosomes [Option ID = 36825]

Correct Answer :-

- Polytene chromosomes [Option ID = 36824]

2) Which of the following is NOT a type of cancer?

[Question ID = 9208]

1. Carcinomas  
[Option ID = 36826]
2. Sarcomas  
[Option ID = 36827]
3. Leukemia  
[Option ID = 36828]
4. Colitis  
[Option ID = 36829]

Correct Answer :-

- Colitis

[Option ID = 36829]

3) If DNA is damaged, which of the following genes arrest cell cycle?

[Question ID = 9209]

1. Rb [Option ID = 36830]
2. p53 [Option ID = 36831]
3. Hedgehog receptor [Option ID = 36832]
4. p16 [Option ID = 36833]

Correct Answer :-

- p53 [Option ID = 36831]

4) Name the term where a single pre-mRNA is processed into a number of products?

[Question ID = 9210]

1. Alternate splicing [Option ID = 36834]
2. Polyadenylation [Option ID = 36835]
3. Capping [Option ID = 36836]
4. Intron removal [Option ID = 36837]

Correct Answer :-

- Alternate splicing [Option ID = 36834]

5) What is the role of the sigma factor in transcription?

[Question ID = 9211]

1. Helicase action [Option ID = 36838]
2. Transcription initiation [Option ID = 36839]
3. Transcription elongation [Option ID = 36840]
4. Transcription termination [Option ID = 36841]

Correct Answer :-

- Transcription initiation [Option ID = 36839]

6) How many base pairs are there in every helical turn of Watson-Crick double helix model ?

[Question ID = 9212]

1. 32.3  
[Option ID = 36842]
2. 20.6  
[Option ID = 36843]

3. 14.0

[Option ID = 36844]

4. 10.4

[Option ID = 36845]

**Correct Answer :-**

- 10.4

[Option ID = 36845]

**7) A purified DNA sample of leaf contains 20% of guanine. Calculate the approximate percentage of purine residues?**

**[Question ID = 9213]**

1. 30% [Option ID = 36846]
2. 40% [Option ID = 36847]
3. 50% [Option ID = 36848]
4. 60% [Option ID = 36849]

**Correct Answer :-**

- 50% [Option ID = 36848]

**8) How many numbers of replicon are found in E.coli?**

**[Question ID = 9214]**

1. Five replicon [Option ID = 36850]
2. Two replicon [Option ID = 36851]
3. Single replicon [Option ID = 36852]
4. Multiple replicon [Option ID = 36853]

**Correct Answer :-**

- Single replicon [Option ID = 36852]

**9) What is the role of snoRNA in eukaryotes?**

**[Question ID = 9215]**

1. Chemical modification of rRNA [Option ID = 36854]
2. RNA splicing [Option ID = 36855]
3. Act as adaptor RNA [Option ID = 36856]
4. Forms component of the ribosome [Option ID = 36857]

**Correct Answer :-**

- Chemical modification of rRNA [Option ID = 36854]

**10) Which of the following sequence of RNA is recognized by the small subunit of the ribosome?**

**[Question ID = 9216]**

1. Rho utilization site [Option ID = 36858]
2. Downstream sequence [Option ID = 36859]
3. Upstream sequence [Option ID = 36860]
4. Shine-Dalgarno sequence [Option ID = 36861]

**Correct Answer :-**

- Shine-Dalgarno sequence [Option ID = 36861]

**11) Which of the following acts as the major neurotransmitter in substantia nigra?**

**[Question ID = 9217]**

1. Dopamine [Option ID = 36862]
2. Noradrenaline [Option ID = 36863]
3. Acetylcholine [Option ID = 36864]
4. Serotonin [Option ID = 36865]

**Correct Answer :-**

- Dopamine [Option ID = 36862]

**12) The electrochemical equilibrium of a neuron can be calculated using which equation?**

**[Question ID = 9218]**

1. Bernouli equation [Option ID = 36866]
2. Henderson-Hassalbach equation [Option ID = 36867]
3. Leyden's equation [Option ID = 36868]
4. Nernst equation [Option ID = 36869]

**Correct Answer :-**

- Nernst equation [Option ID = 36869]

**13) Which is true about composition of Blood?**

**[Question ID = 9219]**

1. Plasma-55%, Protein/WBC-1%, RBC- 45% [Option ID = 36870]
2. Plasma-50%, Protein/WBC-3%, RBC- 47% [Option ID = 36871]

3. Plasma-45%, Protein/WBC-4%, RBC- 51% [Option ID = 36872]
4. Plasma-35%, Protein/WBC-2%, RBC- 65% [Option ID = 36873]

**Correct Answer :-**

- Plasma-55%, Protein/WBC-1%, RBC- 45% [Option ID = 36870]

**14) Which of the following statement is TRUE about the ear and hearing?**

**[Question ID = 9220]**

1. The range of human hearing is from 20 Hz to 20 kHz [Option ID = 36874]
2. Conductive hearing loss would be evident if a person had a similar degree of hearing loss for air conduction and bone conduction [Option ID = 36875]
3. The ear is most sensitive to frequencies between about 100 Hz and 300 Hz [Option ID = 36876]
4. The endolymph of the scala media is similar in composition to plasma [Option ID = 36877]

**Correct Answer :-**

- The range of human hearing is from 20 Hz to 20 kHz [Option ID = 36874]

**15) During isotonic contraction of a skeletal-muscle fibre, the**

**[Question ID = 9221]**

1. (1) Sarcomeres shorten

[Option ID = 36878]

2. (2) A bands shorten

[Option ID = 36879]

3. (3) I bands shorten

[Option ID = 36880]

4. (4) 1 and 3

[Option ID = 36881]

**Correct Answer :-**

- (4) 1 and 3

[Option ID = 36881]

**16) The rate-limiting factor in causing blood coagulation is**

**[Question ID = 9222]**

1. Prothrombin activator [Option ID = 36882]
2. Thrombin [Option ID = 36883]
3. Fibrinogen [Option ID = 36884]
4. Fibrin stabilizing factor [Option ID = 36885]

**Correct Answer :-**

- Prothrombin activator [Option ID = 36882]

**17) In different types of tissue transplantations, the rate of graft rejection in decreasing order is**

**[Question ID = 9223]**

1. Isograft > xenograft > allograft [Option ID = 36886]
2. Allograft > isograft > xenograft [Option ID = 36887]
3. Xenograft > autograft > allograft [Option ID = 36888]
4. Xenograft > allograft > isograft [Option ID = 36889]

**Correct Answer :-**

- Xenograft > allograft > isograft [Option ID = 36889]

**18) Reticulo-endothelial cells are present in**

**[Question ID = 9224]**

1. Kidney, Spleen & Bone marrow [Option ID = 36890]
2. Lung, Spleen & Bone marrow [Option ID = 36891]
3. Liver, Spleen & Bone marrow [Option ID = 36892]
4. Intestine, Spleen & Bone marrow [Option ID = 36893]

**Correct Answer :-**

- Liver, Spleen & Bone marrow [Option ID = 36892]

**19) The central foveal region in eye contains**

**[Question ID = 9225]**

1. Only rods [Option ID = 36894]
2. Both rods and cones [Option ID = 36895]
3. Only cones [Option ID = 36896]
4. Neither rods nor cones [Option ID = 36897]

**Correct Answer :-**

- Only cones [Option ID = 36896]

**20) Osmolality reflects**

**[Question ID = 9226]**

1. 1 osmole of solute dissolved in each g of water [Option ID = 36898]
2. 1 osmole of solute dissolved in each kg of water [Option ID = 36899]
3. 1 osmole of solute dissolved in each L of water [Option ID = 36900]
4. 1 osmole of solute dissolved in each mL of water [Option ID = 36901]

**Correct Answer :-**

- 1 osmole of solute dissolved in each kg of water [Option ID = 36899]

**21) Methionine Synthase is a \_\_\_\_\_dependent Enzyme**

**[Question ID = 9227]**

1. Vitamin B3 [Option ID = 36902]
2. Vitamin B6 [Option ID = 36903]
3. Vitamin B12 [Option ID = 36904]
4. Vitamin B6 [Option ID = 36905]

**Correct Answer :-**

- Vitamin B12 [Option ID = 36904]

**22) Hypertension of unknown etiology is represented by**

**[Question ID = 9228]**

1. (1) Essential hypertension  
[Option ID = 36906]
2. (2) Toxemia of pregnancy  
[Option ID = 36907]
3. (3) Acute intermittent porphyria  
[Option ID = 36908]
4. (4) 1 and 3  
[Option ID = 36909]

**Correct Answer :-**

- (1) Essential hypertension  
[Option ID = 36906]

**23) Which of the following drugs is a ganglionic blocker?**

**[Question ID = 9229]**

1. Prazosin [Option ID = 36910]
2. Ydralazine [Option ID = 36911]
3. Mecamylamine [Option ID = 36912]
4. Nicardipine [Option ID = 36913]

**Correct Answer :-**

- Mecamylamine [Option ID = 36912]

**24) Dramatic decrease in systemic availability of a drug following oral administration is most likely due to**

**[Question ID = 9230]**

1. Extreme drug instability at stomach pH [Option ID = 36914]
2. Hepatic "first-pass" effect [Option ID = 36915]
3. Drug metabolized by gut flora [Option ID = 36916]
4. Patient non-compliance [Option ID = 36917]

**Correct Answer :-**

- Hepatic "first-pass" effect [Option ID = 36915]

**25) Type(s) of derivatives associated with phase II metabolic reactions include(s)**

**[Question ID = 9231]**

1. (1) Glucuronide acid derivatives  
[Option ID = 36918]
2. (2) Sulfation derivative  
[Option ID = 36919]
3. (3) Neither  
[Option ID = 36920]
4. (4) Both 1 and 2  
[Option ID = 36921]

**Correct Answer :-**

- (4) Both 1 and 2  
[Option ID = 36921]

26) Which of the following is the characteristic(s) of aspirin overdose?

[Question ID = 9232]

1. (1) Pyloric valve spasm  
[Option ID = 36922]
2. (2) Acidity  
[Option ID = 36923]
3. (3) Both 1 and 2  
[Option ID = 36924]
4. (4) Neither  
[Option ID = 36925]

Correct Answer :-

- (3) Both 1 and 2  
[Option ID = 36924]

27) Which of the following is effective in the management of mild to moderate pain, when anti-inflammatory action is not necessary?

[Question ID = 9233]

1. Penicillamine [Option ID = 36926]
2. Sulfasalazine [Option ID = 36927]
3. Acetaminophen [Option ID = 36928]
4. Piroxicam [Option ID = 36929]

Correct Answer :-

- Acetaminophen [Option ID = 36928]

28) Risk differs from hazard in that, the risk

[Question ID = 9234]

1. Includes a consideration of the likelihood and severity [Option ID = 36930]
2. Is determined by toxicity studies [Option ID = 36931]
3. Can only be assessed by trained professionals [Option ID = 36932]
4. Is independent of exposure [Option ID = 36933]

Correct Answer :-

- Includes a consideration of the likelihood and severity [Option ID = 36930]

29) Which of the following drugs work by inhibiting the enzyme acetylcholinesterase?

[Question ID = 9235]

1. Neostigmine [Option ID = 36934]
2. Cyclizine [Option ID = 36935]
3. Montelukast [Option ID = 36936]
4. Fentanyl [Option ID = 36937]

Correct Answer :-

- Neostigmine [Option ID = 36934]

30) Which type of epilepsy is treated with Ethosuximide ?

[Question ID = 9236]

1. Tonic-clonic seizures  
[Option ID = 36938]
2. Lennox-Gastaut syndrome seizures  
[Option ID = 36939]
3. Absence seizures  
[Option ID = 36940]
4. All of these  
[Option ID = 36941]

Correct Answer :-

- Absence seizures  
[Option ID = 36940]

31) Which statement is true for competitive inhibition?

[Question ID = 9237]

1. In competitive inhibition, the addition of agonist shifts the dose response curve to the right [Option ID = 36942]
2. In competitive inhibition, the addition of agonist shifts the dose response curve to the left [Option ID = 36943]
3. Competitive inhibition may be irreversible [Option ID = 36944]
4. Competitive inhibition has the ability to activate the receptors [Option ID = 36945]

**Correct Answer :-**

- In competitive inhibition, the addition of agonist shifts the dose response curve to the right [Option ID = 36942]

**32) The enzyme ultimately responsible for the formation of fibrin monomer is**

**[Question ID = 9238]**

1. Plasminogen [Option ID = 36946]
2. Thrombin [Option ID = 36947]
3. Kininogen [Option ID = 36948]
4. Prothrombin [Option ID = 36949]

**Correct Answer :-**

- Thrombin [Option ID = 36947]

**33) Paracrine secretion responsible for inhibiting gastric acid secretion is**

**[Question ID = 9239]**

1. Somatostatin [Option ID = 36950]
2. Gastrin [Option ID = 36951]
3. Histamine [Option ID = 36952]
4. Enterogastrone [Option ID = 36953]

**Correct Answer :-**

- Somatostatin [Option ID = 36950]

**34) The percentage of hemoglobin saturated with oxygen will increase, if**

**[Question ID = 9240]**

1. The arterial  $p\text{CO}_2$  is increased  
[Option ID = 36954]
2. The temperature is increased  
[Option ID = 36955]
3. The arterial  $p\text{O}_2$  is increased  
[Option ID = 36956]
4. The arterial pH is decreased  
[Option ID = 36957]

**Correct Answer :-**

- The arterial  $p\text{O}_2$  is increased  
[Option ID = 36956]

**35) Which of the following statement about spermatogenesis is correct?**

**[Question ID = 9241]**

1. Production and release of spermatozoa is cyclic [Option ID = 36958]
2. LH acts directly on sertoli cells to promote cell division [Option ID = 36959]
3. Sertoli cells are required for mitotic and meiotic activity of germ cells [Option ID = 36960]
4. Spermatogenesis requires continuous release of GnRH [Option ID = 36961]

**Correct Answer :-**

- Sertoli cells are required for mitotic and meiotic activity of germ cells [Option ID = 36960]

**36) Plasma levels of calcium can be increased most rapidly by the direct action of parathyroid hormone on the**

**[Question ID = 9242]**

1. Kidney [Option ID = 36962]
2. Bones [Option ID = 36963]
3. Thyroid gland [Option ID = 36964]
4. Intestine [Option ID = 36965]

**Correct Answer :-**

- Bones [Option ID = 36963]

**37) Transcortical sensory aphasia is most likely to be associated with a lesion of**

**[Question ID = 9243]**

1. The hippocampus [Option ID = 36966]
2. The temporal lobe [Option ID = 36967]
3. The parietal lobe [Option ID = 36968]
4. The limbic system [Option ID = 36969]

**Correct Answer :-**

- The temporal lobe [Option ID = 36967]

**38) When the person is dehydrated, hypotonic solution is found in the**  
[Question ID = 9244]

1. Glomerular filtrate [Option ID = 36970]
2. Loop of Henle [Option ID = 36971]
3. Cortical collecting tubule [Option ID = 36972]
4. Distal collecting duct [Option ID = 36973]

**Correct Answer :-**

- Loop of Henle [Option ID = 36971]

**39) The principal steroid secreted by the fetal adrenal cortex is**  
[Question ID = 9245]

1. Dehydroepiandrosterone [Option ID = 36974]
2. Corticosterone [Option ID = 36975]
3. Cortisol [Option ID = 36976]
4. Pregnenolone [Option ID = 36977]

**Correct Answer :-**

- Dehydroepiandrosterone [Option ID = 36974]

**40) Vaccination is a form of**

[Question ID = 9246]

1. (1) Active immunization  
[Option ID = 36978]
2. (2) Passive immunization  
[Option ID = 36979]
3. (3) Both  
[Option ID = 36980]
4. (4) Neither  
[Option ID = 36981]

**Correct Answer :-**

- (3) Both

[Option ID = 36980]

**41) Which of the following diseases is associated with angiogenesis?**

[Question ID = 9247]

1. Diabetes [Option ID = 36982]
2. Cancer [Option ID = 36983]
3. Asthma [Option ID = 36984]
4. AIDS [Option ID = 36985]

**Correct Answer :-**

- Cancer [Option ID = 36983]

**42) The F1 particles of mitochondria are**

[Question ID = 9248]

1. A type of ribosome that synthesizes mitochondrial proteins [Option ID = 36986]
2. A structural component of the mitochondrial outer membrane [Option ID = 36987]
3. An enzyme complex that synthesizes ATP during respiration [Option ID = 36988]
4. Storage complex for calcium phosphate in the mitochondria [Option ID = 36989]

**Correct Answer :-**

- An enzyme complex that synthesizes ATP during respiration [Option ID = 36988]

**43) Rheumatoid arthritis is an example of**

[Question ID = 9249]

1. Type I hypersensitive reaction [Option ID = 36990]
2. Type II hypersensitive reaction [Option ID = 36991]
3. Type III hypersensitive reaction [Option ID = 36992]
4. Type IV hypersensitive reaction [Option ID = 36993]

**Correct Answer :-**

- Type III hypersensitive reaction [Option ID = 36992]

**44) Cystic fibrosis transmembrane conductance regulator (CFTR) is an ion channel specific for**

[Question ID = 9250]

1. K<sup>+</sup>  
[Option ID = 36994]
2. Na<sup>+</sup>  
[Option ID = 36995]
3. Cl<sup>-</sup>  
[Option ID = 36996]
4. H<sup>+</sup>  
[Option ID = 36997]

Correct Answer :-

- Cl<sup>-</sup>  
[Option ID = 36996]

45) Under which phase of bacterial growth bacteria increases in size but do not divide?

[Question ID = 9251]

1. Lag [Option ID = 36998]
2. Log [Option ID = 36999]
3. Stationary phase [Option ID = 37000]
4. Death phase [Option ID = 37001]

Correct Answer :-

- Lag [Option ID = 36998]

46) Which of the following features of HIV make it different from other members of this family?

[Question ID = 9252]

1. HIV uses reverse transcriptase to convert its RNA genome into cDNA  
[Option ID = 37002]
2. HIV infects human cells that are CD4<sup>+</sup>  
[Option ID = 37003]
3. HIV is enveloped  
[Option ID = 37004]
4. HIV encoded a number of small proteins such as *tat* and *rev*  
[Option ID = 37005]

Correct Answer :-

- HIV uses reverse transcriptase to convert its RNA genome into cDNA  
[Option ID = 37002]

47) Sulfur oxidizing bacteria belongs to

[Question ID = 9253]

1. Chemoheterotroph [Option ID = 37006]
2. Chemolithoautotroph [Option ID = 37007]
3. Chemolithoheterotroph [Option ID = 37008]
4. Photolithoautotroph [Option ID = 37009]

Correct Answer :-

- Chemolithoautotroph [Option ID = 37007]

48) RNA as a genetic material is found in, which of the following organism?

[Question ID = 9254]

1. Plasmodium  
[Option ID = 37010]
2. *Staphylococcus aureus*  
[Option ID = 37011]
3. *Schizosaccharomyces cerevisiae*  
[Option ID = 37012]
4. Poliovirus  
[Option ID = 37013]

Correct Answer :-

- Poliovirus  
[Option ID = 37013]

49) Severe Acute Respiratory Syndrome (SARS) is



**[Question ID = 9255]**

1. Caused by variant of *Pneumococcus pneumonia*

[Option ID = 37014]

2. Caused by a variant of common cold virus

[Option ID = 37015]

3. An acute form of asthma

[Option ID = 37016]

4. Related to all of these

[Option ID = 37017]

**Correct Answer :-**

- Caused by a variant of common cold virus

[Option ID = 37015]

**50) Viruses can be cultured in**

**[Question ID = 9256]**

1. (1) Chemically defined media as that used for bacteria

[Option ID = 37018]

2. (2) Living system only

[Option ID = 37019]

3. (3) Non-living matter also

[Option ID = 37020]

4. (4) Both 1 and 2

[Option ID = 37021]

**Correct Answer :-**

- (2) Living system only

[Option ID = 37019]

**51) Which of the following fungi is a rich source of protein?**

**[Question ID = 9257]**

1. Mushroom [Option ID = 37022]

2. Aspergillus [Option ID = 37023]

3. Penicillum [Option ID = 37024]

4. Mucor [Option ID = 37025]

**Correct Answer :-**

- Mushroom [Option ID = 37022]

**52) Streptomycin is obtained from**

**[Question ID = 9258]**

1. Streptomyces capreolus [Option ID = 37026]

2. Streptomyces vanezulae [Option ID = 37027]

3. Streptomyces orchidaceus [Option ID = 37028]

4. Streptomyces griseus [Option ID = 37029]

**Correct Answer :-**

- Streptomyces griseus [Option ID = 37029]

**53) Which cells secrete Tissue plasminogen Activator (tPA)?**

**[Question ID = 9259]**

1. Erythrocytes [Option ID = 37030]

2. Platelets [Option ID = 37031]

3. Endothelial cells [Option ID = 37032]

4. Neutrophils [Option ID = 37033]

**Correct Answer :-**

- Endothelial cells [Option ID = 37032]

**54) Which trace element is most useful in wound healing?**

**[Question ID = 9260]**

1. Manganese [Option ID = 37034]

2. Magnesium [Option ID = 37035]

3. Selenium [Option ID = 37036]

4. Zinc [Option ID = 37037]

**Correct Answer :-**

- Zinc [Option ID = 37037]

55) What type of mutation occurs in sickle cell anemia?

[Question ID = 9261]

1. (1) Missense

[Option ID = 37038]

2. (2) Point mutation

[Option ID = 37039]

3. (3) Both 1 and 2

[Option ID = 37040]

4. (4) Nonsense

[Option ID = 37041]

Correct Answer :-

- (3) Both 1 and 2

[Option ID = 37040]

56) Which of the following enzyme is lactamase inhibitor?

[Question ID = 9262]

1. Clavulanic acid

[Option ID = 37042]

2. Adipic acid

[Option ID = 37043]

3. Lysergic acid

[Option ID = 37044]

4. Salicylic acid

[Option ID = 37045]

Correct Answer :-

- Clavulanic acid

[Option ID = 37042]

57) A twelve-year-old boy measures his height against a small tree by hammering a nail at his height. The boy is 4 feet tall and the tree is 8 feet tall. The boy grows into a 6 feet tall man of 22 and comes back to the tree which has been growing by a foot every 2 years. When he comes back at 22 years and later after 42 years, what is the distance of the nail from the ground?

[Question ID = 9263]

1. 15 & 25 feet [Option ID = 37046]

2. 4 & 4 feet [Option ID = 37047]

3. 19 & 29 feet [Option ID = 37048]

4. 17 & 27 [Option ID = 37049]

Correct Answer :-

- 4 & 4 feet [Option ID = 37047]

58) Recessive inheritance is inferred from

[Question ID = 9264]

1. (1) Phenotype

[Option ID = 37050]

2. (2) Genotype

[Option ID = 37051]

3. (3) Both (1) and (2)

[Option ID = 37052]

4. (4) Only (1)

[Option ID = 37053]

Correct Answer :-

- (4) Only (1)

[Option ID = 37053]

59) Recombination frequency is a measure of distance between two genes. It indicates

[Question ID = 9265]

1. Absolute distance in terms of base pairs [Option ID = 37054]

2. Position of the gene from the centromere [Option ID = 37055]

3. Relative distance between the two genes [Option ID = 37056]
4. How often meiosis occurs [Option ID = 37057]

Correct Answer :-

- Relative distance between the two genes [Option ID = 37056]

60) A Test cross in a model organism is carried out between

[Question ID = 9266]

1. A heterozygote and recessive homozygote [Option ID = 37058]
2. Two heterozygotes [Option ID = 37059]
3. A heterozygote and dominant homozygote [Option ID = 37060]
4. Offspring and parent both heterozygous [Option ID = 37061]

Correct Answer :-

- A heterozygote and recessive homozygote [Option ID = 37058]

61) Linkage between loci is

[Question ID = 9267]

1. Confirming Mendel's laws of inheritance [Option ID = 37062]
2. A deviation from Mendel's Laws of inheritance [Option ID = 37063]
3. Reflected in the Law of independent assortment [Option ID = 37064]
4. Because of recombination [Option ID = 37065]

Correct Answer :-

- A deviation from Mendel's Laws of inheritance [Option ID = 37063]

62) For a mutation to be stably inherited

[Question ID = 9268]

1. It should occur in all somatic cells [Option ID = 37066]
2. It should occur on both the homologues in a diploid [Option ID = 37067]
3. It should occur in gametes [Option ID = 37068]
4. It should be random [Option ID = 37069]

Correct Answer :-

- It should occur in gametes [Option ID = 37068]

63) Which of the following statements is untrue?

[Question ID = 9269]

1. Desolvation is an energy expensive process that involves the removal of water from polar functional groups prior to a drug binding to its binding site [Option ID = 37070]
2. Water molecules surrounding a hydrophobic region of a drug form an ordered layer of molecules with low entropy [Option ID = 37071]
3. Interaction between the non polar regions of a drug and the non polar regions of a target require the removal of an ordered water coat and represents a gain in binding energy due to increased entropy [Option ID = 37072]
4. An increase in entropy results in a greater positive value of  $\Delta G$  and a greater chance of binding [Option ID = 37073]

Correct Answer :-

- An increase in entropy results in a greater positive value of  $\Delta G$  and a greater chance of binding [Option ID = 37073]

64) Which secondary messenger is generated as a result of the action of nitrous oxide?

[Question ID = 9270]

1. GTP [Option ID = 37074]
2. Cyclic GMP [Option ID = 37075]
3. ATP [Option ID = 37076]
4. Cyclic AMP [Option ID = 37077]

Correct Answer :-

- Cyclic GMP [Option ID = 37075]

65) Which of the following is not a G-protein coupled receptor?

[Question ID = 9271]

1. The muscarinic receptor [Option ID = 37078]
2. The glycine receptor [Option ID = 37079]
3. The adrenergic receptor [Option ID = 37080]
4. The glutamate receptor [Option ID = 37081]

Correct Answer :-

- The glycine receptor [Option ID = 37079]

66) Which of the following is not a typical messenger for a tyrosine kinase linked receptor?

[Question ID = 9272]

1. Insulin [Option ID = 37082]
2. Acetylcholine [Option ID = 37083]
3. Growth factors [Option ID = 37084]
4. Cytokines [Option ID = 37085]

Correct Answer :-

- Acetylcholine [Option ID = 37083]

67) Which of the following statements best explains the action of lithium salts in treating manic depressive illness?

[Question ID = 9273]

1. They inhibit adenylatecyclase [Option ID = 37086]
2. They inhibit phospholipase C [Option ID = 37087]
3. They inhibit protein kinase C [Option ID = 37088]
4. They inhibit a glycogen synthase kinase [Option ID = 37089]

Correct Answer :-

- They inhibit a glycogen synthase kinase [Option ID = 37089]

68) Which of the following terms best describes a drug that binds to an active site and inhibits the enzyme, and where inhibition decreases when substrate concentration is increased?

[Question ID = 9274]

1. Allosteric inhibitor  
[Option ID = 37090]
2. Irreversible inhibitor  
[Option ID = 37091]
3. Reversible inhibitor  
[Option ID = 37092]
4. All of these  
[Option ID = 37093]

Correct Answer :-

- Reversible inhibitor  
[Option ID = 37092]

69) Which of the following is not used as a measure of enzyme activity?

[Question ID = 9275]

1.  $EC_{50}$   
[Option ID = 37094]
2.  $K_i$   
[Option ID = 37095]
3.  $IC_{50}$   
[Option ID = 37096]
4. Log P  
[Option ID = 37097]

Correct Answer :-

- Log P  
[Option ID = 37097]

70) Which of the following terms applies to the maximum biological effect resulting from a drug binding to its target?

[Question ID = 9276]

1. Affinity [Option ID = 37098]
2. Efficacy [Option ID = 37099]
3. Potency [Option ID = 37100]
4. Stability [Option ID = 37101]

Correct Answer :-

- Efficacy [Option ID = 37099]

71) Suckling stimulus by the infant during nursing maintains lactation by

[Question ID = 9277]

1. Increasing the secretion of oxytocin [Option ID = 37102]
2. Increasing the secretion of prolactin [Option ID = 37103]
3. Increasing the secretion of LH and FSH [Option ID = 37104]
4. Increasing the secretion of oxytocin and prolactin [Option ID = 37105]

Correct Answer :-

- Increasing the secretion of oxytocin and prolactin [Option ID = 37105]

72) Which one of the following is not a heme protein ?

[Question ID = 9278]

1. Catalase [Option ID = 37106]
2. Cytochrome oxidase [Option ID = 37107]
3. Microsomal P450 drug oxidizing system [Option ID = 37108]
4. Protein Kinase C [Option ID = 37109]

Correct Answer :-

- Protein Kinase C [Option ID = 37109]

**73) A shift in the oxygen Haemoglobin Dissociation curve to the right occurs in**  
[Question ID = 9279]

1. Hypothermia [Option ID = 37110]
2. Carboxyhaemoglobin [Option ID = 37111]
3. Fetal hemoglobin-S [Option ID = 37112]
4. An increase in the 2, 3-Bisphosphoglycerate (2, 3-BPG) [Option ID = 37113]

Correct Answer :-

- An increase in the 2, 3-Bisphosphoglycerate (2, 3-BPG) [Option ID = 37113]

**74) The concentration of agar to obtain semi solid media is**

[Question ID = 9280]

1. 1.5-20%  
[Option ID = 37114]
2. 0.5% or less  
[Option ID = 37115]
3. >10%  
[Option ID = 37116]
4. >10% but <20%  
[Option ID = 37117]

Correct Answer :-

- 0.5% or less  
[Option ID = 37115]

**75) Bleomycin is a drug for the treatment of**  
[Question ID = 9281]

1. Cancer [Option ID = 37118]
2. Atherosclerosis [Option ID = 37119]
3. Hypertension [Option ID = 37120]
4. Hyperlipidemia [Option ID = 37121]

Correct Answer :-

- Cancer [Option ID = 37118]

**76) Emblica officinalis extract is used widely as an**  
[Question ID = 9282]

1. Antihistamine [Option ID = 37122]
2. Antioxidant [Option ID = 37123]
3. Antipyretic [Option ID = 37124]
4. Analgesic [Option ID = 37125]

Correct Answer :-

- Antioxidant [Option ID = 37123]

**77) The vitamin that contains cobalt is**  
[Question ID = 9283]

1. Vitamin B12 [Option ID = 37126]
2. Vitamin C [Option ID = 37127]
3. Vitamin E [Option ID = 37128]
4. Vitamin k [Option ID = 37129]

Correct Answer :-

- Vitamin B12 [Option ID = 37126]

**78) The first virus shown to cause disease was**  
[Question ID = 9284]

1. Polio [Option ID = 37130]
2. Hepatitis [Option ID = 37131]
3. Tobacco mosaic virus [Option ID = 37132]
4. Potato blight [Option ID = 37133]

Correct Answer :-

- Tobacco mosaic virus [Option ID = 37132]

79) Which of the following is used for the proper maintenance and preservation of pure cultures?

[Question ID = 9285]

1. Periodic transfer to fresh media  
[Option ID = 37134]
2. Preservation by overlaying cultures with mineral oil  
[Option ID = 37135]
3. Preservation by lyophilization  
[Option ID = 37136]
4. All of these  
[Option ID = 37137]

Correct Answer :-

- All of these  
[Option ID = 37137]

80) Name of the mosquito responsible for transmitting chikungunya fever is

[Question ID = 9286]

1. Culex mosquito [Option ID = 37138]
2. Anopheles mosquito [Option ID = 37139]
3. Aedes mosquito [Option ID = 37140]
4. Uranotaenia mosquito [Option ID = 37141]

Correct Answer :-

- Aedes mosquito [Option ID = 37140]

81) The half life period of a radioisotope is 2 hours. After 6 hours, the fraction of the initial quantity of the isotope left behind will be

[Question ID = 9287]

1.  $1/6$  [Option ID = 37142]
2.  $1/3$  [Option ID = 37143]
3.  $1/8$  [Option ID = 37144]
4.  $1/4$  [Option ID = 37145]

Correct Answer :-

- $1/8$  [Option ID = 37144]

82)  $\text{PCl}_3$  reacts with water to yield

[Question ID = 9288]

1.  $\text{H}_3\text{PO}_4$  [Option ID = 37146]
2.  $\text{H}_3\text{PO}_3$  [Option ID = 37147]
3.  $\text{HOCl}$  [Option ID = 37148]
4.  $\text{POCl}_3$  [Option ID = 37149]

Correct Answer :-

- $\text{H}_3\text{PO}_3$  [Option ID = 37147]

83) The bond angle  $120^\circ$  for  $\text{BF}_3$  and  $109.3^\circ$  for  $\text{CH}_4$  accounts for

[Question ID = 9290]

1.  $\text{sp}^2$ , tetrahedral and  $\text{sp}^3$ , trigonal  
[Option ID = 37154]
2.  $\text{sp}^2$ , trigonal and  $\text{sp}^3$ , trigonal  
[Option ID = 37155]
3.  $\text{sp}^2$ , tetrahedral and  $\text{sp}^3$ , tetrahedral  
[Option ID = 37156]
4.  $\text{sp}^2$ , trigonal and  $\text{sp}^3$ , tetrahedral  
[Option ID = 37157]

Correct Answer :-

- $\text{sp}^2$ , trigonal and  $\text{sp}^3$ , tetrahedral  
[Option ID = 37157]

84) Ultraviolet and visible radiation interacts with matter causing electronic transitions (promotion of electrons from the ground state to a high energy state). Which of the following transition falls in UV-Vis range?

[Question ID = 9291]

1.  $\pi$ - $\pi^*$  (pi to pi star transition) and  $n$ - $\pi^*$  (n to pi star transition) [Option ID = 37158]
2.  $\sigma$ - $\sigma^*$  (sigma to sigma star transition) and  $n$ - $\sigma^*$  (n to sigma star transition) [Option ID = 37159]
3.  $\sigma$ - $\sigma^*$  (sigma to sigma star transition) and  $\pi$ - $\pi^*$  (pi to pi star transition) [Option ID = 37160]
4.  $n$ - $\sigma^*$  (n to sigma star transition) and  $n$ - $\pi^*$  (n to pi star transition) [Option ID = 37161]

Correct Answer :-

- $\pi$ - $\pi^*$  (pi to pi star transition) and  $n$ - $\pi^*$  (n to pi star transition) [Option ID = 37158]

85) Which of the following statements is not true?

[Question ID = 9293]

1. Pyrrole contains  $6\pi$  electrons [Option ID = 37166]
2. Pyrrole is an aromatic molecule [Option ID = 37167]
3. Pyrrole is a planar molecule [Option ID = 37168]
4. Pyrrole contains 6 membered N containing heterocyclic ring [Option ID = 37169]

Correct Answer :-

- Pyrrole contains 6 membered N containing heterocyclic ring [Option ID = 37169]

86) Fischer -Tropsch process is

[Question ID = 9294]

1. Decomposition of an alkane in the absence of air [Option ID = 37170]
2. Process to convert kerosene into gasoline [Option ID = 37171]
3. A process to obtain synthetic fuel [Option ID = 37172]
4. Conversion of straight chain alkanes into branched-chain alkanes and aromatic hydrocarbons [Option ID = 37173]

Correct Answer :-

- A process to obtain synthetic fuel [Option ID = 37172]

87) Which one of the following product is not obtained from primary amine?

[Question ID = 9295]

1. Imine [Option ID = 37174]
2. Enamine [Option ID = 37175]
3. Hydrazone [Option ID = 37176]
4. Oxime [Option ID = 37177]

Correct Answer :-

- Enamine [Option ID = 37175]

88) Which one of the following is correct statement?

[Question ID = 9296]

1. The electronegative character decreases in the same group moving down the periodic table  
[Option ID = 37178]
2. The basic character decreases moving from left to right in periodic table  
[Option ID = 37179]
3. The ionization potential increases moving from left to right in periodic table  
[Option ID = 37180]
4. All of these  
[Option ID = 37181]

Correct Answer :-

- All of these  
[Option ID = 37181]

89) Which one of the following rearrangement involves the conversion of oxime to amine?

[Question ID = 9297]

1. Beckmann [Option ID = 37182]
2. Curtius [Option ID = 37183]
3. Hofmann [Option ID = 37184]
4. Wagner-Meerwein [Option ID = 37185]

Correct Answer :-

- Beckmann [Option ID = 37182]

90) The product of the reaction of 1, 3- butadiene and ethylene is

[Question ID = 9298]

1. Hexane [Option ID = 37186]
2. Cyclohexane [Option ID = 37187]
3. Hexene [Option ID = 37188]
4. Cyclohexene [Option ID = 37189]

Correct Answer :-

- Cyclohexene [Option ID = 37189]

91)  $\text{LiAlH}_4$  is used for one of the following reactions

[Question ID = 9299]

1. Oxidation [Option ID = 37190]
2. Reduction [Option ID = 37191]
3. Condensation [Option ID = 37192]
4. Substitution [Option ID = 37193]

Correct Answer :-

- Reduction [Option ID = 37191]

92) Which of the following violates the octet rule?

[Question ID = 9300]

1.  $\text{PCl}_3$   
[Option ID = 37194]
2.  $\text{CBr}_4$   
[Option ID = 37195]
3.  $\text{OF}_2$   
[Option ID = 37196]
4.  $\text{AsF}_5$   
[Option ID = 37197]

Correct Answer :-

- $\text{AsF}_5$   
[Option ID = 37197]

93) In which one of the following species does the transition metal ion have  $d^3$  electronic configuration?

[Question ID = 9301]

1.  $[\text{Cr}(\text{NH}_3)_6]^{3+}$   
[Option ID = 37198]
2.  $[\text{Co}(\text{OH}_2)_6]^{2+}$   
[Option ID = 37199]
3.  $[\text{CoF}_6]^{3-}$   
[Option ID = 37200]
4.  $[\text{Fe}(\text{CN})_6]^{3-}$   
[Option ID = 37201]

Correct Answer :-

- $[\text{Cr}(\text{NH}_3)_6]^{3+}$   
[Option ID = 37198]

94) Hydrolysis of a fat molecule would yield

[Question ID = 9302]

1. Water and an alkene [Option ID = 37202]
2. Ethanol and propionic acid [Option ID = 37203]
3. Glycerol and soap [Option ID = 37204]
4. A trimer of glycerol with fatty acid [Option ID = 37205]

Correct Answer :-

- Glycerol and soap [Option ID = 37204]

95) In the Hofmann preparation of primary amine, the starting compound is

[Question ID = 9304]

1. Carboxylic acid [Option ID = 37210]
2. Ketone [Option ID = 37211]
3. Amide [Option ID = 37212]
4. Halide [Option ID = 37213]

Correct Answer :-

- Amide [Option ID = 37212]

96) Which of the following IS TRUE about sucrose?

[Question ID = 9305]

1. It is not a reducing sugar [Option ID = 37214]
2. It reduces Fehling's solution [Option ID = 37215]
3. It forms an oxime [Option ID = 37216]



4. It forms an osazone [Option ID = 37217]

Correct Answer :-

- It is not a reducing sugar [Option ID = 37214]

97) The metal present in Wilkinson's catalyst is

[Question ID = 9306]

1. Platinum [Option ID = 37218]
2. Iron [Option ID = 37219]
3. Copper [Option ID = 37220]
4. Rhodium [Option ID = 37221]

Correct Answer :-

- Rhodium [Option ID = 37221]

98) Complete the following reaction.  ${}_{11}\text{Na}^{23} + {}_1\text{H}^1 \rightarrow ? + {}_0\text{n}^1$

[Question ID = 9308]

1.  ${}_{12}\text{Mn}^{23}$   
[Option ID = 37226]
2.  ${}_{12}\text{Mg}^{23}$   
[Option ID = 37227]
3.  ${}_{12}\text{C}^{23}$   
[Option ID = 37228]
4. None of these  
[Option ID = 37229]

Correct Answer :-

- ${}_{12}\text{Mg}^{23}$   
[Option ID = 37227]

99) Name the following reaction



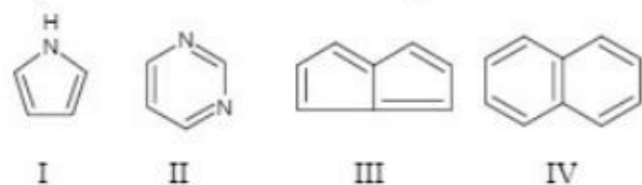
[Question ID = 9309]

1. Perkin Reaction  
[Option ID = 37230]
2. Aldol condensation  
[Option ID = 37231]
3. Dieckmann condensation  
[Option ID = 37232]
4. None of these  
[Option ID = 37233]

Correct Answer :-

- Dieckmann condensation  
[Option ID = 37232]

100) Which of the following IS NOT aromatic?



[Question ID = 9310]

1. I [Option ID = 37234]
2. II [Option ID = 37235]
3. III [Option ID = 37236]
4. IV [Option ID = 37237]

Correct Answer :-

- III [Option ID = 37236]

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