

# DU MSc Zoology

Topic:- ZOO MSC S2

## 1) If *Hydra* is cut into many pieces

[Question ID = 2508]

1. Each piece will develop into a young *Hydra*

[Option ID = 10026]

2. Each piece having a bit of nucleus will develop into a young *Hydra*

[Option ID = 10027]

3. Each piece having a bit of ectoderm and endoderm will gradually develop into a young *Hydra*

[Option ID = 10028]

4. Each piece will die

[Option ID = 10029]

Correct Answer :-

- Each piece having a bit of ectoderm and endoderm will gradually develop into a young *Hydra*

[Option ID = 10028]

## 2) Botryoidal tissue is found in

[Question ID = 2509]

1. Neanthes [Option ID = 10030]

2. Earthworm [Option ID = 10031]

3. Leeches [Option ID = 10032]

4. Balanoglossus [Option ID = 10033]

Correct Answer :-

- Leeches [Option ID = 10032]

## 3) The excretory organ in *Herdmania*

[Question ID = 2510]

1. Protonephridium

[Option ID = 10034]

2. Solenocyte

[Option ID = 10035]

3. Neural gland

[Option ID = 10036]

4. Flame cell

[Option ID = 10037]

Correct Answer :-

- Neural gland

[Option ID = 10036]

## 4) Aristotle's Lantern is found in

[Question ID = 2511]

1. *Echinocardium*

[Option ID = 10038]

2. *Holothuria*

[Option ID = 10039]

3. *Echinus*

[Option ID = 10040]

4. *Cucumaria*

[Option ID = 10041]

Correct Answer :-

- *Echinus*

[Option ID = 10040]

5) Which one of the following is not an insect?

[Question ID = 2512]

1. Termite [Option ID = 10042]
2. Spider [Option ID = 10043]
3. Mosquito [Option ID = 10044]
4. Ant [Option ID = 10045]

Correct Answer :-

- Spider [Option ID = 10043]

6) Gynacophoral canal is found in:-

[Question ID = 2513]

1. *Ancylostoma duodenale*  
[Option ID = 10046]
2. *Schistosoma haematobium*  
[Option ID = 10047]
3. *Ascaris lumbricoides*  
[Option ID = 10048]
4. *Wuchereria bancrofti*  
[Option ID = 10049]

Correct Answer :-

- *Schistosoma haematobium*  
[Option ID = 10047]

7) The powerful muscle by which the bird raises and propell itself through the air is performed by:-

[Question ID = 2514]

1. Pectoralis minor [Option ID = 10050]
2. Flexor perforans [Option ID = 10051]
3. Pectoralis major [Option ID = 10052]
4. Flexor major [Option ID = 10053]

Correct Answer :-

- Pectoralis major [Option ID = 10052]

8) Neuromast organ in fishes are useful as:-

[Question ID = 2515]

1. Current receptors [Option ID = 10054]
2. Touch receptors [Option ID = 10055]
3. Thermoreceptors [Option ID = 10056]
4. Electoreceptors [Option ID = 10057]

Correct Answer :-

- Current receptors [Option ID = 10054]

9) Balanoglossus also known as:-

[Question ID = 2516]

1. Pin worms [Option ID = 10058]
2. Acron worm [Option ID = 10059]
3. Tape worms [Option ID = 10060]
4. Ring worms [Option ID = 10061]

Correct Answer :-

- Acron worm [Option ID = 10059]

10) In rabbit, sigmoid notch is present in:-

[Question ID = 2517]

1. Pectoral girdle [Option ID = 10062]
2. Pelvic girdle [Option ID = 10063]
3. Tibio-fibula [Option ID = 10064]
4. Radius-ulna [Option ID = 10065]

Correct Answer :-

- Radius-ulna [Option ID = 10065]

11) Synsacrum in fowl is formed by the fusion of:-

[Question ID = 2518]

1. Thoracic vertebrae [Option ID = 10066]
2. Thoracic and lumbar vertebrae [Option ID = 10067]
3. Thoracic, lumbar and sacral vertebrae [Option ID = 10068]
4. Thoracic, lumbar, sacral and caudal vertebrae [Option ID = 10069]

Correct Answer :-

- Thoracic, lumbar, sacral and caudal vertebrae [Option ID = 10069]

12) Which of the following reptiles has four chambered heart?

[Question ID = 2519]

1. Turtle [Option ID = 10070]
2. Sphenodon [Option ID = 10071]
3. King cobra [Option ID = 10072]
4. Crocodile [Option ID = 10073]

Correct Answer :-

- Crocodile [Option ID = 10073]

13) Female *Anopheles* can be distinguished from female *Culex* because it sits

[Question ID = 2520]

1. At an angle with substratum  
[Option ID = 10074]
2. Parallel to surface of substratum  
[Option ID = 10075]
3. At right angles to surface of substratum  
[Option ID = 10076]
4. Without using all six legs  
[Option ID = 10077]

Correct Answer :-

- At an angle with substratum  
[Option ID = 10074]

14) The variant hemoglobin in sickle cell anemia binds O<sub>2</sub> less efficiently. However, the abnormal allele has not been eliminated from the affected population as it has a selection advantage against

[Question ID = 2521]

1. Pernicious anemia [Option ID = 10078]
2. Leukemia [Option ID = 10079]
3. Malaria [Option ID = 10080]
4. Thalassemia [Option ID = 10081]

Correct Answer :-

- Malaria [Option ID = 10080]

15) Which one of the following is an incorrect match?

[Question ID = 2522]

1. Symbiosis-*Trichonympha*  
[Option ID = 10082]
2. Commensalism-*Balantidium*  
[Option ID = 10083]
3. Parasitism-*Trypanosoma*  
[Option ID = 10084]
4. Free living-*Paramecium*  
[Option ID = 10085]

Correct Answer :-

- Commensalism-*Balantidium*  
[Option ID = 10083]

16) Aortic arch VI gives rise to the pulmonary artery but maintains its connection with the dorsal aorta through:-

[Question ID = 2523]

1. Ductus arteriosus [Option ID = 10086]
2. Ductus caroticus [Option ID = 10087]
3. Ductus bulbus [Option ID = 10088]
4. Ductus pneumaticus [Option ID = 10089]

Correct Answer :-

- Ductus arteriosus [Option ID = 10086]

17) Which one of the following amphibians has partial interventricular septum in heart?

**[Question ID = 2524]**

1. *Siren*

[Option ID = 10090]

2. *Proteus*

[Option ID = 10091]

3. *Rana*

[Option ID = 10092]

4. *Uraeotyphlus*

[Option ID = 10093]

**Correct Answer :-**

• *Siren*

[Option ID = 10090]

**18) Which part of the middle ear transmits sound vibrations to fenestra rotunda of internal ear:-**

**[Question ID = 2525]**

1. Stapes [Option ID = 10094]

2. Incus [Option ID = 10095]

3. Malleus [Option ID = 10096]

4. Tympanum [Option ID = 10097]

**Correct Answer :-**

• Stapes [Option ID = 10094]

**19) Third chamber in the stomach of a ruminant mammal is:-**

**[Question ID = 2526]**

1. Abomasum [Option ID = 10098]

2. Omasum [Option ID = 10099]

3. Rumen [Option ID = 10100]

4. Reticulum [Option ID = 10101]

**Correct Answer :-**

• Omasum [Option ID = 10099]

**20) The type of jaw suspensorium in shark is:-**

**[Question ID = 2527]**

1. Autodiastylitic [Option ID = 10102]

2. Amphistylitic [Option ID = 10103]

3. Hyostylitic [Option ID = 10104]

4. Streptostylitic [Option ID = 10105]

**Correct Answer :-**

• Hyostylitic [Option ID = 10104]

**21) Which of the following continents is included in the Neotropical faunal realm?**

**[Question ID = 2528]**

1. North America [Option ID = 10106]

2. South America [Option ID = 10107]

3. Africa [Option ID = 10108]

4. Australia [Option ID = 10109]

**Correct Answer :-**

• South America [Option ID = 10107]

**22) Darwin's finches represent the example of**

**[Question ID = 2529]**

1. Convergent evolution [Option ID = 10110]

2. Parallel evolution [Option ID = 10111]

3. Adaptive radiation [Option ID = 10112]

4. Co-evolution [Option ID = 10113]

**Correct Answer :-**

• Adaptive radiation [Option ID = 10112]

**23) A novel phenotypic trait that helps in success of a taxonomic group and its subsequent radiation is called**

**[Question ID = 2530]**

1. Key innovation [Option ID = 10114]

2. Adaptive trait [Option ID = 10115]

3. Evolutionary novelty [Option ID = 10116]

4. Crucial trait [Option ID = 10117]

**Correct Answer :-**

• Key innovation [Option ID = 10114]

24) The extinction of dinosaurs occurred as a result of mass extinction event that took place at the

[Question ID = 2531]

1. End of Devonian period [Option ID = 10118]
2. End of Cretaceous period [Option ID = 10119]
3. End of Triassic period [Option ID = 10120]
4. End of Permian period [Option ID = 10121]

Correct Answer :-

- End of Cretaceous period [Option ID = 10119]

25) Presence of which of the following is an important evidence for organic evolution?

[Question ID = 2532]

1. homologous organs only [Option ID = 10122]
2. homologous and vestigial organs [Option ID = 10123]
3. homologous and analogous organs [Option ID = 10124]
4. analogous and vestigial organs [Option ID = 10125]

Correct Answer :-

- homologous and vestigial organs [Option ID = 10123]

26) Bergman's rule refers to a general tendency of mammals to be

[Question ID = 2533]

1. large in size in colder areas of the their distribution [Option ID = 10126]
2. smaller in size in areas of the their distribution [Option ID = 10127]
3. darker pigments in warmer areas of the their distribution [Option ID = 10128]
4. lighter pigments in warmer areas of the their distribution [Option ID = 10129]

Correct Answer :-

- large in size in colder areas of the their distribution [Option ID = 10126]

27) Which of the following statement is TRUE?

[Question ID = 2534]

1. Evolution is goal oriented [Option ID = 10130]
2. Mutations are always harmful [Option ID = 10131]
3. Variations are necessary for natural selection [Option ID = 10132]
4. Speciation always requires geographical isolation [Option ID = 10133]

Correct Answer :-

- Variations are necessary for natural selection [Option ID = 10132]

28) 'Philosophie Zoologique' was written by:-

[Question ID = 2535]

1. Charles Darwin [Option ID = 10134]
2. Jean-Baptiste Lamarck [Option ID = 10135]
3. Richard Dawkins [Option ID = 10136]
4. Russel Wallace [Option ID = 10137]

Correct Answer :-

- Jean-Baptiste Lamarck [Option ID = 10135]

29) Within a small population, variations can occur in gene frequencies by chance rather than natural selection. It may be referred as

[Question ID = 2536]

1. Genetic flow [Option ID = 10138]
2. Genetic load [Option ID = 10139]
3. Genetic drift [Option ID = 10140]
4. Genetic equilibrium [Option ID = 10141]

Correct Answer :-

- Genetic drift [Option ID = 10140]

30) Monarch and Viceroy butterflies are an example of:-

[Question ID = 2537]

1. Mullerian mimicry [Option ID = 10142]
2. Batesian mimicry [Option ID = 10143]
3. Peckhamian mimicry [Option ID = 10144]
4. Vavilovian mimicry [Option ID = 10145]

Correct Answer :-

- Batesian mimicry [Option ID = 10143]

31) The correct route through which pulse making impulses in the heart is:-

[Question ID = 2538]

1. SA node> Purkinjee fibre> bundles of His> AV node> heart muscles [Option ID = 10146]
2. SA node> AV node>bundles of His> Purkinjee fibre > heart muscles [Option ID = 10147]
3. AV node> Purkinjee fibre> SA node> bundle of His> heart muscles [Option ID = 10148]
4. AV node> SA node> Purkinjee fibre> bundles of His> heart muscles [Option ID = 10149]

**Correct Answer :-**

- SA node> AV node>bundles of His> Purkinjee fibre > heart muscles [Option ID = 10147]

**32) Which of the following is controlled by autonomous nervous system?**

**[Question ID = 2539]**

1. Papillary reflex [Option ID = 10150]
2. Swallowing food [Option ID = 10151]
3. Knee jerk response [Option ID = 10152]
4. Peristalsis [Option ID = 10153]

**Correct Answer :-**

- Peristalsis [Option ID = 10153]

**33) Match List I with List II**

List I	List II
Vitamins	Diseases
A. K	I. Beri-beri
B. D	II. Haemorrhagic disease of new born
C. B1	III. Night blindness
D. A	IV. Rickets

Choose the correct answer from the options given below:

**[Question ID = 2540]**

1. A - III, B - II, C - IV, D - I

[Option ID = 10154]

2. A - I, B - II, C - IV, D - III

[Option ID = 10155]

3. A - III, B - I, C - IV, D - II

[Option ID = 10156]

4. A - II, B - IV, C - I, D - III

[Option ID = 10157]

**Correct Answer :-**

- A - II, B - IV, C - I, D - III

[Option ID = 10157]

**34) Which of the following is a light compass response?**

**[Question ID = 2541]**

1. Geomagnetaxis [Option ID = 10158]
2. Hydrotaxis [Option ID = 10159]
3. Menotaxis [Option ID = 10160]
4. Mnemotaxis [Option ID = 10161]

**Correct Answer :-**

- Menotaxis [Option ID = 10160]

**35) The non-descent of testis into the scrotal sac is referred as**

**[Question ID = 2542]**

1. Orchidectomy [Option ID = 10162]
2. Vasectomy [Option ID = 10163]
3. Hypogonadism [Option ID = 10164]
4. Cryptorchidism [Option ID = 10165]

**Correct Answer :-**

- Cryptorchidism [Option ID = 10165]

**36) Hypophysectomy of the adult female rat prevents the development of:-**

**[Question ID = 2543]**

1. Primordial follicle [Option ID = 10166]
2. Primary follicle [Option ID = 10167]
3. Secondary follicle [Option ID = 10168]
4. Graffian follicle [Option ID = 10169]

**Correct Answer :-**

- Graffian follicle [Option ID = 10169]

37) Mammalian acrosomal reaction is initiated by which of the following?

[Question ID = 2544]

1. ZP1 [Option ID = 10170]
2. ZP2 [Option ID = 10171]
3. ZP2f [Option ID = 10172]
4. ZP3 [Option ID = 10173]

Correct Answer :-

- ZP3 [Option ID = 10173]

38) Vasopressin is synthesized by:-

[Question ID = 2545]

1. Pars distalis [Option ID = 10174]
2. Pars intermedia [Option ID = 10175]
3. Pars nervosa [Option ID = 10176]
4. Hypothalamus [Option ID = 10177]

Correct Answer :-

- Hypothalamus [Option ID = 10177]

39) In the organ of Corti, apical projections of hair cells are in intimate contact with:-

[Question ID = 2546]

1. Reissners's membrane [Option ID = 10178]
2. Basilar membrane [Option ID = 10179]
3. Decemet's membrane [Option ID = 10180]
4. Tectorial membrane [Option ID = 10181]

Correct Answer :-

- Tectorial membrane [Option ID = 10181]

40) The hormone which causes moulting in arthropods is:-

[Question ID = 2547]

1. Thyroxin [Option ID = 10182]
2. Ecdysone [Option ID = 10183]
3. Prolactin [Option ID = 10184]
4. Juvenile hormone [Option ID = 10185]

Correct Answer :-

- Ecdysone [Option ID = 10183]

41) End product of glycolysis in red blood cells is

[Question ID = 2548]

1. Acetyl CoA [Option ID = 10186]
2. Pyruvic acid [Option ID = 10187]
3. Lactic acid [Option ID = 10188]
4. 3-Phosphoglycerate [Option ID = 10189]

Correct Answer :-

- Lactic acid [Option ID = 10188]

42) For a given fixed length of double stranded DNA, melting temperature ( $T_m$ ) is

[Question ID = 2549]

1. Directly proportional to GC base content [Option ID = 10190]
2. Inversely proportional to GC base content [Option ID = 10191]
3. Directly proportional to AT base content [Option ID = 10192]
4. Not related to base composition of DNA [Option ID = 10193]

Correct Answer :-

- Directly proportional to GC base content [Option ID = 10190]

43) At pH value greater than pKa of COOH group in the amino acid, the amino acid will be

[Question ID = 2550]

1. Positive charged [Option ID = 10194]
2. Negative charged [Option ID = 10195]
3. No charge [Option ID = 10196]
4. Both positive and negative charges [Option ID = 10197]

Correct Answer :-

- Negative charged [Option ID = 10195]

44) Calcium is stored in the muscle cell

[Question ID = 2551]

1. In the cytoplasm [Option ID = 10198]
2. In the sarcoplasmic reticulum [Option ID = 10199]

3. In the vacuoles as free calcium [Option ID = 10200]
4. In the nucleus as free calcium [Option ID = 10201]

**Correct Answer :-**

- In the sarcoplasmic reticulum [Option ID = 10199]

**45) ATP is synthesized in mitochondria and also in glycolysis. During synthesis of ATP in glycolysis, phosphate is provided by**  
[Question ID = 2552]

1. glucose-6-phosphate and fructose-6-phosphate [Option ID = 10202]
2. 3-phospho-gyceraldehyde and di-hydroxyacetone phosphate [Option ID = 10203]
3. 1,6 bis-phosphofuctose and 3-phosphoglyceric acid [Option ID = 10204]
4. 1,3 bis-phospho glycerate and phosphoenol pyruvate [Option ID = 10205]

**Correct Answer :-**

- 1,3 bis-phospho glycerate and phosphoenol pyruvate [Option ID = 10205]

**46) Fructose intolerance is due to**

[Question ID = 2553]

1. Increased production of lactase [Option ID = 10206]
2. Increased production of amylase [Option ID = 10207]
3. Reduced production of aldolase [Option ID = 10208]
4. Reduced production of cellulase [Option ID = 10209]

**Correct Answer :-**

- Reduced production of aldolase [Option ID = 10208]

**47) In presence of oxygen, glycolysis is suppressed and it is called**

[Question ID = 2554]

1. Bohr's Effect [Option ID = 10210]
2. Warburg Effect [Option ID = 10211]
3. Pasteur Effect [Option ID = 10212]
4. Haldane's Effect [Option ID = 10213]

**Correct Answer :-**

- Pasteur Effect [Option ID = 10212]

**48) What is the pH of a solution whose hydrogen ion concentration is  $3.2 \times 10^{-4}$  mol/L?**

[Question ID = 2555]

1. 3.5 [Option ID = 10214]
2. 4.5 [Option ID = 10215]
3. 4.0 [Option ID = 10216]
4. 3.0 [Option ID = 10217]

**Correct Answer :-**

- 3.5 [Option ID = 10214]

**49) The detection of restriction fragment length polymorphisms relies on a specialized hybridization technique called**

[Question ID = 2556]

1. Southern blotting [Option ID = 10218]
2. northern blotting [Option ID = 10219]
3. western blotting [Option ID = 10220]
4. north-western blotting [Option ID = 10221]

**Correct Answer :-**

- Southern blotting [Option ID = 10218]

**50) Muscle phosphorylase deficiency cause a glycogen storage disease known as**

[Question ID = 2557]

1. McArdle's Disease [Option ID = 10222]
2. von Gierke's Disease [Option ID = 10223]
3. Cori's Disease [Option ID = 10224]
4. Andersen's Disease [Option ID = 10225]

**Correct Answer :-**

- McArdle's Disease [Option ID = 10222]

**51) A symmetrical molecule that reacts asymmetrically in Krebs cycle**

[Question ID = 2558]

1. Citrate [Option ID = 10226]
2. Succinate [Option ID = 10227]
3. Malate [Option ID = 10228]
4. Fumerate [Option ID = 10229]

**Correct Answer :-**

- Citrate [Option ID = 10226]



**52) Which of the following condenses acyl and malonyl groups?**

**[Question ID = 2559]**

1. Acyl carrier protein [Option ID = 10230]
2. Acetyl co-A ACP transacetylase [Option ID = 10231]
3. Malonyl co-A ACP transferase [Option ID = 10232]
4. B-ketoacyl ACP synthase [Option ID = 10233]

**Correct Answer :-**

- Malonyl co-A ACP transferase [Option ID = 10232]

**53) Transamination reactions essentially require coenzyme**

**[Question ID = 2560]**

1. NAD [Option ID = 10234]
2. Thiamine pyrophosphate [Option ID = 10235]
3. Pyridoxal phosphate [Option ID = 10236]
4. Coenzyme A [Option ID = 10237]

**Correct Answer :-**

- Pyridoxal phosphate [Option ID = 10236]

**54) Which of the following trisomy karyotypes has the mildest effect on human development?**

**[Question ID = 2561]**

1. 47, XXX [Option ID = 10238]
2. 47, XXY [Option ID = 10239]
3. 47, XX,+13 [Option ID = 10240]
4. 47, XY,+21 [Option ID = 10241]

**Correct Answer :-**

- 47, XXX [Option ID = 10238]

**55) Which of the following conditions shows anticipation in paternal transmission?**

**[Question ID = 2562]**

1. Huntington disease [Option ID = 10242]
2. Marfan syndrome [Option ID = 10243]
3. Cystic fibrosis [Option ID = 10244]
4. Fragile X syndrome [Option ID = 10245]

**Correct Answer :-**

- Huntington disease [Option ID = 10242]

**56) Which of the following conditions DOES NOT show multifactorial inheritance?**

**[Question ID = 2563]**

1. Pyloric stenosis [Option ID = 10246]
2. Schizophrenia [Option ID = 10247]
3. Spina bifida (neural tube defects) [Option ID = 10248]
4. Marfan syndrome [Option ID = 10249]

**Correct Answer :-**

- Marfan syndrome [Option ID = 10249]

**57) Mendel discovered principles of inheritance because he**

**[Question ID = 2564]**

1. Observed simultaneously all the characteristics in which the parents differed [Option ID = 10250]
2. Believed that the hereditary characteristics of two individuals became thoroughly blended in the offspring [Option ID = 10251]
3. Ignored all characteristics except a few markedly contrasting ones he studied [Option ID = 10252]
4. Studied only the offspring obtained from a single mating [Option ID = 10253]

**Correct Answer :-**

- Ignored all characteristics except a few markedly contrasting ones he studied [Option ID = 10252]

**58) Cornea transplant in humans is almost never rejected, because**

**[Question ID = 2565]**

1. It is composed of enucleated cells [Option ID = 10254]
2. It is a non - living layer [Option ID = 10255]
3. Its cells are not penetrable by bacteria [Option ID = 10256]
4. It is avascular [Option ID = 10257]

**Correct Answer :-**

- It is avascular [Option ID = 10257]

**59) The most sensitive area of the entire larynx and respiratory tract for triggering a cough reflex is**

**[Question ID = 2566]**

1. Glottis [Option ID = 10258]
2. Respiratory bronchioles [Option ID = 10259]

3. Trachealis muscles [Option ID = 10260]

4. Mucus membrane of carina [Option ID = 10261]

**Correct Answer :-**

- Mucus membrane of carina [Option ID = 10261]

**60) The conjugation between F' and F<sup>-</sup> cells will be:-**

**[Question ID = 2567]**

1. Two F<sup>+</sup> cells [Option ID = 10262]
2. Two F<sup>-</sup> cells [Option ID = 10263]
3. Two F' cells [Option ID = 10264]
4. Two Hfr cells [Option ID = 10265]

**Correct Answer :-**

- Two F' cells [Option ID = 10264]

**61) The modified dihybrid ratio due to recessive epistasis is**

**[Question ID = 2568]**

1. 9:7 [Option ID = 10266]
2. 9:3:4 [Option ID = 10267]
3. 12:3:1 [Option ID = 10268]
4. 15:1 [Option ID = 10269]

**Correct Answer :-**

- 9:3:4 [Option ID = 10267]

**62) Which of the following aberrations DOES NOT change in chromosomal arm ratio?**

**[Question ID = 2569]**

1. Pericentric inversion [Option ID = 10270]
2. Paracentric inversion [Option ID = 10271]
3. Reciprocal translocation [Option ID = 10272]
4. Non-reciprocal translocation [Option ID = 10273]

**Correct Answer :-**

- Pericentric inversion [Option ID = 10270]

**63) If AaBbccDdEe is crossed with AaBbCcddEe, the proportion of aabbccdde among progenies will be**

**[Question ID = 2570]**

1. 1/32 [Option ID = 10274]
2. 1/64 [Option ID = 10275]
3. 1/128 [Option ID = 10276]
4. 1/256 [Option ID = 10277]

**Correct Answer :-**

- 1/256 [Option ID = 10277]

**64) In a population of 60 individuals, 42 people were found to have an allele for polydactyly, out of which 38 were found to have an extra digit. The penetrance is:-**

**[Question ID = 2571]**

1. 0.6 [Option ID = 10278]
2. 0.70 [Option ID = 10279]
3. 0.90 [Option ID = 10280]
4. 1.00 [Option ID = 10281]

**Correct Answer :-**

- 0.90 [Option ID = 10280]

**65) The agent used to fuse the membranes of cells from two different cell lines in somatic cell hybridization is**

**[Question ID = 2572]**

1. HAT [Option ID = 10282]
2. PEG [Option ID = 10283]
3. HGPRT [Option ID = 10284]
4. TK [Option ID = 10285]

**Correct Answer :-**

- PEG [Option ID = 10283]

**66) Lampbrush chromosomes are found in**

**[Question ID = 2573]**

1. Brain cells of cat [Option ID = 10286]
2. Germ cells of mammalia [Option ID = 10287]
3. Ovarian cells of amphibians [Option ID = 10288]
4. Salivary glands of diptera [Option ID = 10289]

**Correct Answer :-**

- Ovarian cells of amphibians [Option ID = 10288]

**67) Anoikis is a form of cell death which arises when one of the following proteins detaches from extracellular matrix. Identify the cell adhesion molecule**

**[Question ID = 2574]**

1. Cadherin [Option ID = 10290]
2. Integrin [Option ID = 10291]
3. Selectin [Option ID = 10292]
4. I-CAM [Option ID = 10293]

**Correct Answer :-**

- Integrin [Option ID = 10291]

**68) Which pathway relies on activated Smads to transduce its signals?**

**[Question ID = 2575]**

1. Notch signaling [Option ID = 10294]
2. TGF- beta signaling [Option ID = 10295]
3. Wnt signaling [Option ID = 10296]
4. TNF-signalling [Option ID = 10297]

**Correct Answer :-**

- Wnt signaling [Option ID = 10296]

**69) Which of the following is observed during Anaphase B?**

**[Question ID = 2576]**

1. Depolymerisation of microtubules [Option ID = 10298]
2. Shortening of polar microtubules [Option ID = 10299]
3. Consumption of ATP [Option ID = 10300]
4. Sliding of kinetochore microtubules [Option ID = 10301]

**Correct Answer :-**

- Consumption of ATP [Option ID = 10300]

**70) Import of glucose by the intestinal epithelial cell:-**

**[Question ID = 2577]**

1. Is dependent on hydrolysis of ATP [Option ID = 10302]
2. Requires expression of GLUT1 on the plasma membrane [Option ID = 10303]
3. Occurs throughout the phospholipid bilayer [Option ID = 10304]
4. Is facilitated by GLUT2 [Option ID = 10305]

**Correct Answer :-**

- Is dependent on hydrolysis of ATP [Option ID = 10302]

**71) Integrity of tight junctions is essential for**

**[Question ID = 2578]**

1. Transfer of second messengers [Option ID = 10306]
2. Metabolic coupling [Option ID = 10307]
3. Peristalsis [Option ID = 10308]
4. Transepithelial transport [Option ID = 10309]

**Correct Answer :-**

- Transepithelial transport [Option ID = 10309]

**72) If cardiolipin biosynthesis decreases in eukaryotic cells**

**[Question ID = 2579]**

1. ATP synthesis would be unaffected [Option ID = 10310]
2. The function of the ETC would be affected adversely [Option ID = 10311]
3. The potential would remain at 140 mV [Option ID = 10312]
4. ADP would be imported into the matrix [Option ID = 10313]

**Correct Answer :-**

- The function of the ETC would be affected adversely [Option ID = 10311]

**73) Fleming's bacterial culture during the discovery of penicillin was of**

**[Question ID = 2580]**

1. *Enterobacteria*  
[Option ID = 10314]
2. *Salmonella*  
[Option ID = 10315]
3. *Staphylococcus*  
[Option ID = 10316]
4. *Streptococcus*

[Option ID = 10317]

Correct Answer :-

- *Staphylococcus*

[Option ID = 10316]

74) Mad cow disease is caused by a

[Question ID = 2581]

1. Virus [Option ID = 10318]
2. Viroid [Option ID = 10319]
3. PPL0 [Option ID = 10320]
4. Prion [Option ID = 10321]

Correct Answer :-

- Prion [Option ID = 10321]

75) The recognition sequence for BamHI is 5' G/GATCC 3'. The '/' represents the cutting site. What can be inferred about the ends from it?

[Question ID = 2582]

1. The ends created are double stranded [Option ID = 10322]
2. The single stranded end is 5' in nature [Option ID = 10323]
3. The single stranded ends are 3' in nature [Option ID = 10324]
4. The nature of the ends cannot be inferred [Option ID = 10325]

Correct Answer :-

- The single stranded end is 5' in nature [Option ID = 10323]

76) If you have a DNA fragment, with blunt ends on both side, in order to make it sticky which enzyme would you select?

[Question ID = 2583]

1. DNA polymerase [Option ID = 10326]
2. Terminal nucleotydyl transferase [Option ID = 10327]
3. Alkaline phosphatase [Option ID = 10328]
4. Reverse transcriptase [Option ID = 10329]

Correct Answer :-

- Terminal nucleotydyl transferase [Option ID = 10327]

77) Even after replication in *E. coli*, how does the modified DNA remain protected?

[Question ID = 2584]

1. It remains protected because of conservative mode of replication  
[Option ID = 10330]
2. It remains protected because of semi-conservative mode of replication  
[Option ID = 10331]
3. The mode of replication has no role to play in the protection  
[Option ID = 10332]
4. It is again modified after replication  
[Option ID = 10333]

Correct Answer :-

- It remains protected because of semi-conservative mode of replication  
[Option ID = 10331]

78) Among following DNA polymerases, which one is required for the mitochondrial DNA replication?

[Question ID = 2585]

1. DNA pol epsilon [Option ID = 10334]
2. DNA pol zeta [Option ID = 10335]
3. DNA pol gamma [Option ID = 10336]
4. DNA pol lambda [Option ID = 10337]

Correct Answer :-

- DNA pol gamma [Option ID = 10336]

79) What is the role of SDS in SDS-PAGE?

[Question ID = 2586]

1. Protein denaturing and imparting negative charge [Option ID = 10338]
2. Imparting overall a uniform positive charge to protein [Option ID = 10339]
3. Imparting equal mass to all proteins [Option ID = 10340]
4. Protein unfolding and imparting net positive charge [Option ID = 10341]

Correct Answer :-

- Protein denaturing and imparting negative charge [Option ID = 10338]

**80) Sabin polio vaccine consists of**

**[Question ID = 2587]**

1. Three attenuated strains of polio virus [Option ID = 10342]
2. Two live strains of polio virus [Option ID = 10343]
3. Three killed strains of polio virus [Option ID = 10344]
4. Two attenuated strains of polio virus [Option ID = 10345]

**Correct Answer :-**

- Three attenuated strains of polio virus [Option ID = 10342]

**81) Which type of hypersensitivity is due to antigen- antibody complex accumulation?**

**[Question ID = 2588]**

1. Type I [Option ID = 10346]
2. Type II [Option ID = 10347]
3. Type III [Option ID = 10348]
4. Type IV [Option ID = 10349]

**Correct Answer :-**

- Type III [Option ID = 10348]

**82) Bence -Jones proteins discovered in urine of myeloma patients are:-**

**[Question ID = 2589]**

1. Excess light chains [Option ID = 10350]
2. Excess heavy chains [Option ID = 10351]
3. Mixture of heavy and light chains [Option ID = 10352]
4. Fab fragments [Option ID = 10353]

**Correct Answer :-**

- Excess light chains [Option ID = 10350]

**83) Negative selection of thymocytes during their maturation ensures**

**[Question ID = 2590]**

1. MHC restriction [Option ID = 10354]
2. Self-tolerance [Option ID = 10355]
3. Both self-tolerance and MHC restriction [Option ID = 10356]
4. Neither self-tolerance nor MHC restriction [Option ID = 10357]

**Correct Answer :-**

- Self-tolerance [Option ID = 10355]

**84) Antimicrobial peptides of silkworm are called**

**[Question ID = 2591]**

1. Cecropins [Option ID = 10358]
2. Alpha defensins [Option ID = 10359]
3. Beta defensins [Option ID = 10360]
4. Cathelicidins [Option ID = 10361]

**Correct Answer :-**

- Cecropins [Option ID = 10358]

**85) The hinge region of antibody is rich in**

**[Question ID = 2592]**

1. Glycine and alanine [Option ID = 10362]
2. Leucine and valine [Option ID = 10363]
3. Proline and cysteine [Option ID = 10364]
4. Arginine and histidine [Option ID = 10365]

**Correct Answer :-**

- Proline and cysteine [Option ID = 10364]

**86) 'Freund's complete adjuvant' developed by Jules Freund had an additional component that was absent in 'Freund's incomplete adjuvant', it was**

**[Question ID = 2593]**

1. mineral oil [Option ID = 10366]
2. emulsifying agent [Option ID = 10367]
3. mycobacteria [Option ID = 10368]
4. the antigen [Option ID = 10369]

**Correct Answer :-**

- mycobacteria [Option ID = 10368]

**87) The mouse major histocompatibility complex is a collection of genes arrayed on long continuous DNA stretch on**

**[Question ID = 2594]**

1. Chromosome 11 [Option ID = 10370]
2. Chromosome X [Option ID = 10371]
3. Chromosome 6 [Option ID = 10372]
4. Chromosome 17 [Option ID = 10373]

**Correct Answer :-**

- Chromosome 17 [Option ID = 10373]

**88) Peptide fragments generated in the cell's cytoplasm are transported into the endoplasmic reticulum by**  
**[Question ID = 2595]**

1. MHC-I [Option ID = 10374]
2. TAP-I and TAP-2 [Option ID = 10375]
3. HLA-DM [Option ID = 10376]
4. Invariant chain [Option ID = 10377]

**Correct Answer :-**

- TAP-I and TAP-2 [Option ID = 10375]

**89) Which of the following is not a professional antigen presenting cell?**  
**[Question ID = 2596]**

1. B cell [Option ID = 10378]
2. T cell [Option ID = 10379]
3. Macrophage [Option ID = 10380]
4. Dendritic cell [Option ID = 10381]

**Correct Answer :-**

- T cell [Option ID = 10379]

**90) Radioimmunoassay is one of the most sensitive technique for detecting antigen or antibody. It was first developed by**  
**[Question ID = 2597]**

1. Kohler and Milestein [Option ID = 10382]
2. Berson and Yalow [Option ID = 10383]
3. Zinkernagel and Doherty [Option ID = 10384]
4. Porter and Edelman [Option ID = 10385]

**Correct Answer :-**

- Berson and Yalow [Option ID = 10383]

**91) Cell to cell communication is important in development of an organism. The ability of cells to respond to a specific inductive signal is called**  
**[Question ID = 2598]**

1. Induction [Option ID = 10386]
2. Competence [Option ID = 10387]
3. Specificity [Option ID = 10388]
4. Instructive interaction [Option ID = 10389]

**Correct Answer :-**

- Competence [Option ID = 10387]

**92) Acrosome of the sperm is formed from**  
**[Question ID = 2599]**

1. Golgi body [Option ID = 10390]
2. Mitochondria [Option ID = 10391]
3. Centriole [Option ID = 10392]
4. Endoplasmic reticulum [Option ID = 10393]

**Correct Answer :-**

- Golgi body [Option ID = 10390]

**93) The type of cleavage in an insect egg is**  
**[Question ID = 2600]**

1. Holoblastic [Option ID = 10394]
2. Meroblastic [Option ID = 10395]
3. Superficial [Option ID = 10396]
4. Discoidal [Option ID = 10397]

**Correct Answer :-**

- Superficial [Option ID = 10396]

**94) The gastrular movement involved in migration of individual cells from the surface to interior of embryo is termed as**  
**[Question ID = 2601]**

1. Ingression [Option ID = 10398]
2. Involution [Option ID = 10399]
3. Invagination [Option ID = 10400]

4. Delamination [Option ID = 10401]

Correct Answer :-

- Ingression [Option ID = 10398]

95) In following model organisms, which one is pseudotetraploid?

[Question ID = 2602]

1. *Danio rerio*

[Option ID = 10402]

2. *Xenopus laevis*

[Option ID = 10403]

3. *Drosophila melanogaster*

[Option ID = 10404]

4. *Xenopus tropicalis*

[Option ID = 10405]

Correct Answer :-

- *Xenopus laevis*

[Option ID = 10403]

96) Match List I with List II

List I	List II
A. Mouse	I. meroblastic cleavage, discoblastula
B. Xenopus	II. holoblastic cleavage, amphiblastula
C. Chick	III. rotational cleavage, blastocyst
D. Danio rerio	IV. discoidal cleavage, discoblastula, cleidoic egg

Choose the correct answer from the options given below:-

[Question ID = 2603]

1. A - IV, B - I, C - II, D - III

[Option ID = 10406]

2. A - III, B - II, C - IV, D - I

[Option ID = 10407]

3. A - IV, B - II, C - I, D - III

[Option ID = 10408]

4. A - I, B - II, C - III, D - IV

[Option ID = 10409]

Correct Answer :-

- A - III, B - II, C - IV, D - I

[Option ID = 10407]

97) Which one of the following provides fast block to polyspermy during sea urchin fertilization?

[Question ID = 2604]

1. Wave of calcium release [Option ID = 10410]

2. Release of the contents from cortical granules [Option ID = 10411]

3. Depolarization of egg membrane [Option ID = 10412]

4. Activation of phospholipase C zeta [Option ID = 10413]

Correct Answer :-

- Depolarization of egg membrane [Option ID = 10412]

98) Following are the events that occur during fertilization.

A. Activation of egg metabolism to start development

B. Fusion of genetic material from the two gametes

C. Regulation of sperm entry into the egg

D. Contact and recognition between sperm and egg

Choose answer from the options given below.

representing correct order of the events.

[Question ID = 2605]

1. A, B, C, D

[Option ID = 10414]

2. B, C, D, A

[Option ID = 10415]

3. D, C, B, A

[Option ID = 10416]

4. C, D, A, B

[Option ID = 10417]

**Correct Answer :-**

- D, C, B, A

[Option ID = 10416]

**99) During development of *Xenopus* embryo, mesoderm elongation towards the anterior results from intercalation of cells during a process called:-**

**[Question ID = 2606]**

1. Involution

[Option ID = 10418]

2. Convergent extension

[Option ID = 10419]

3. Proliferation

[Option ID = 10420]

4. Invagination

[Option ID = 10421]

**Correct Answer :-**

- Convergent extension

[Option ID = 10419]

**100) The dorsal-most vegetal cells of the blastula which are capable of inducing the organizer are called:-**

**[Question ID = 2607]**

1. Dorsal lip of the blastopore [Option ID = 10422]

2. Grey crescent [Option ID = 10423]

3. Nieuwkoop center [Option ID = 10424]

4. Bottle cells [Option ID = 10425]

**Correct Answer :-**

- Nieuwkoop center [Option ID = 10424]