

DATE: __. __. 2024

PRE-QUARTERLY EXAM

TIME: 1½ HRS

STD: XII

BIO-ZOOLOGY

MARKS: 35

I. Choose the correct answer**8x1=8**

- During unfavorable conditions *Amoeba* withdraws its pseudopodia and secretes a three-layered, protective, chitinous cyst wall around it and becomes inactive. This phenomenon is called
 - Encystment
 - strobilation
 - Plasmotomy
 - budding
- The process which the sperm undergoes before penetrating the ovum is
 - Spermiation
 - Cortical reaction
 - Spermiogenesis
 - Capacitation
- Which of the following is correct regarding HIV, hepatitis B, gonorrhoea and trichomoniasis?
 - Gonorrhoea is a STD whereas others are not.
 - Trichomoniasis is a viral disease whereas others are bacterial.
 - HIV is a pathogen whereas others are diseases.
 - Hepatitis B is eradicated completely whereas others are not.
- Klinefelters' syndrome is characterized by a karyotype of
 - YYY
 - XO
 - XXX
 - XXY
- A mRNA molecule is produced by
 - Replication
 - Transcription
 - Duplication
 - Translation
- The age of fossils can be determined by
 - electron microscope
 - weighing the fossils
 - carbon dating
 - analysis of bones
- A 30 year old woman has bloody diarrhoea for the past 14 hours, which one of the following organisms is likely to cause this illness?
 - Streptococcus pyogenes*
 - Clostridium difficile*
 - Shigella dysenteriae*
 - Salmonella enteritidis*
- Select the bacterial diseases
 - Diphtheria
 - Mumps
 - Amoebiasis
 - Tetanus
 - Typhoid
 - i) and iv) only
 - i), ii) iii) and v) only
 - i), iv) and v) only
 - ii), iii) and v) only

II. Answer any two of the following questions**4x2=8**

- Define Hologamy?
- Define gametogenesis.
- How does Mutation theory of De Vries differ from Lamarck and Darwin's view in the origin of new species.
- Why do you think it is not possible to produce vaccine against 'common cold'?
- Why tRNA is called an adapter molecule?
- What is bioremediation?

III. Answer any three of the following questions (Q.no 19 is compulsory)**3x3=9**

- Define ART? Write about surrogacy?
- Who disproved Lamarck's Theory of acquired characters? How?
- Give any two bioactive molecules produced by microbes and state their uses.
- List the causative agent, mode of transmission and symptoms for Diphtheria and Typhoid.
- State any three goals of the human genome project.

IV. Answer the following question**2x5=10**

- Describe the structure of the human ovum with a neat labelled diagram. (or)
What are the applications of Karyotyping?
- Mention the main objections to Darwinism. (or)
Write the salient features of genetic code?

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I. Choose the correct answer**8x1=8**

1. In an accident there is great loss of blood and there is no time to analyse the blood group which blood can be safely transferred?
 - a. O and Rh negative
 - b. O and Rh positive
 - c. B and Rh negative
 - d. AB and Rh positive
2. Which of the following is Hormone-releasing IUDs
 - a. Progestasert
 - b. Lippes loop
 - c. Saheli
 - d. Multiload 375
3. The mature sperms are stored in the
 - a. Seminiferous tubules
 - b. Vas deferens
 - c. Epididymis
 - d. Seminal vesicle
4. The mode of sexual reproduction in bacteria is by
 - a. Formation of gametes
 - b. Endospore formation
 - c. Conjugation
 - d. Zoospore formation
5. Which of the following is the correct sequence of event with reference to the central dogma?
 - a. Transcription, Translation, Replication
 - b. Transcription, Replication, Translation
 - c. Duplication, Translation, Transcription
 - d. Replication, Transcription, Translation
6. Darwin's finches are an excellent example of
 - a. connecting links
 - b. seasonal migration
 - c. adaptive radiation
 - d. parasitism
7. Exo-erythrocytic schizogony of *Plasmodium* takes place in _____
 - a. RBC
 - b. Leucocytes
 - c. Stomach
 - d. Liver
8. The most common substrate used in distilleries for the production of ethanol is _____
 - a. Soyameal
 - b. Groundgram
 - c. Molasses
 - d. Corn meal

II. Answer any two of the following questions**4x2=8**

9. What are holandric genes?
10. Define Zymology.
11. State Hardy Weinberg principle.
12. How are STD's transmitted?
13. What is inhibin? State its functions.?
14. What is Hygiene?

III. Answer any three of the following questions (Q.no 19 is compulsory)**3x3=9**

15. Differentiate between complete and incomplete parthenogenesis?
16. Write the salient features of mutation theory?
17. Give a schematic representation of spermatogenesis and oogenesis in humans.
18. What are the three structural differences between RNA and DNA?
19. Differentiate between prebiotics and probiotics.

IV. Answer the following question**2x5=10**

20. Discuss the techniques to detect the foetal disorder during early pregnancy. (or)
Give an account of genetic control of Rh factor.
21. Write the goals of human genome project. (or)
Tabulate the types and mechanisms of innate immunity?

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1. Allergy involves
 - a) IgE
 - b) IgG
 - c) IgA
 - d) IgM
2. What is the World biofuel day is observed every year
 - a. 10th March
 - b. 10th April
 - c. 10th August
 - d. 10th October
3. The Neanderthal man had the brain capacity of
 - a) 650 – 800cc
 - b) 1200cc
 - c) 900cc
 - d) 1400cc
4. Meselson and Stahl's experiment proved
 - (a) Transduction
 - (b) Transformation
 - (c) DNA is the genetic material
 - (d) Semi-conservative nature of DNA replication
5. ABO blood group in man is controlled by
 - a) Multiple alleles
 - b) Lethal genes
 - c) Sex linked genes
 - d) Y-linked genes
6. A contraceptive pill prevents ovulation by
 - (a) blocking fallopian tube
 - (b) inhibiting release of FSH and LH
 - (c) stimulating release of FSH and LH
 - (d) causing immediate degeneration of released ovum
7. The most important hormone in initiating and maintaining lactation after birth is
 - a. Oestrogen
 - b. FSH
 - c. Prolactin
 - d. Oxytocin
8. The fusion of morphological and physiological identical gametes (isogametes) is called
 - a. merogamy
 - b. isogamy
 - c. anisogamy
 - d. hologamy

II. Answer any two of the following questions**4x2=8**

9. Define karyotyping?
10. Define antibiotics.
11. What are called connecting links.
12. Differentiate between internal and external fertilization?
13. Define menopause.
14. What is immunity?

III. Answer any three of the following questions (Q.no 19 is compulsory)**3x3=9**

15. Differentiate between monocistronic and polycistronic?
16. Write the two principles of Lamarckian theory?
17. Give a note on PCOS.
18. Write about the Surgical sterilisation methods?
19. Write about SCP.

IV. Answer the following question**2x5=10**

20. Discuss the extra embryonic membranes of human. **(or)**
Explain the inheritance of Colour blindness in humans with flowchart.
21. Explain stabilizing, directional and disruptive selection with examples. **(or)**
Explain the structure of immunoglobulin with suitable diagram.