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Mock Test -2

Secondary Examination, 2023

Zoology

Time : 2¼ Hours

Max. Marks : 80

General Instructions to the Examinees:

- (1) Candidate must write first her/her Roll No. on the question paper compulsorily.
- (2) All the questions are compulsory.
- (3) Write the answer to each question in the given answer book only.
- (4) For question having more than one part the answers to those part are to be in continuity.
- (5) If there is any error/difference/contradiction in Hindi & English version of the questions paper, the question of the Hindi version should be treated valid.

Section – A

1. Which of the following statements is correct?

- (1) Surgical methods of contraception do not prevent gamete formation.
- (2) In embryo transfer technique embryos are always transferred into the uterus
- (3) Oral pills are very popular contraceptives among the rural women.
- (4) STDs are not completely curable

2. An infertile couple was advised to undergo in Vitro fertilization by the doctor out of the options given below, select the correct stage for transfer to the fallopian tube for successful results?

- (1) Zygote only
- (2) Zygote or early embryo upto 8 blastomeres
- (3) Embryos with more than 8 blastomeres
- (4) Blastocyst stage

3. Given below are four Contraceptive methods and their modes of action. Select the correct match.

S.No.	Method	S.No.	Mode of action
(a)	Condom	(i)	Ovum not able to reach fallopian tube
(b)	Vasectomy	(ii)	Prevents Ovulation
(c)	Pill	(iii)	Prevents Sperm reaching the cervix
(d)	Tube tony	(iv)	Semen contains no sperms

- (1) (a)-(i) (b)-(ii) (c)-(iii) (d)-(iv)
- (2) (a)-(ii) (b)-(iii) (c)-(iii) (d)-(i)
- (3) (a)-(iii) (b)-(iv) (c)-(ii) (d)-(i)
- (4) (a)-(iv) (b)-(i) (c)-(iii) (d)-(ii)

4. Which of the following amino acids residues will constitute the histone core?

- (1) Leysine & Arginine
- (2) Glutamine and Lysine
- (3) Asparagine and Arginine
- (4) Asparagine and glutamine

5. *Apis mellifera* are killer bees possessing toxic bee venom. Identify the treatment and the type of immunity developed from the given table to treat a person against the venom of this bee
- | Remedy | Immunity |
|----------------------------|----------|
| (1) Inactivated proteins | Active |
| (2) Proteins of the venoms | Passive |
| (3) Preformed antibodies | Passive |
| (4) Dead microorganisms | Active |
6. Interferons are most effective in making non-infected cells resistant against the spread of which of the following diseases in humans?
- (1) ascariasis (2) ringworm
(3) amoebiasis (4) AIDS
7. Swathi was growing a bacterial colony in a culture flask under ideal laboratory conditions where the resources are replenished. Which of the following eqⁿ. will represent the growth in this case?
(where pop. size is N, birth rate is b, death rate is d, unit time period of t, and carrying capacity is k)
- (1) $\frac{dn}{dt} = kn$
(2) $\frac{dn}{dt} = rN$
(3) $\frac{dN}{dt} = rN(k-N/k)$
(4) $\frac{dN}{dt} = IN(k+N/k)$
8. Sea Anemone gets attached to the surface of the hermit crab. the kind of popⁿ interaction exhibited in this case is.
- (1) amensalism (2) mutualism
(3) Commensalism (4) Parasitism
9. Which of the following is an example exsitu conservation?
- (1) Sacred Groves
(2) National Park
(3) Biosphere Reserver
(4) Seed Bank
10. Pusting out of full developed embryo from the uterus is called its.
- (1) Conception
(2) Ovi position
(3) Parturation
(4) Ovulation
11. What do we understand by reproductive health?
- (1) Total well-being in physical aspects of reproduction
(2) The term simply refers to healthy reproductive organs with normal functions.
(3) Total well being in emotional behavioural and social aspects of reproduction.
(4) All of these
12. For what purposes Nucleopolyhedrovirus are being used now a days?
- (1) Species-specific narrow spectrum insecticidal application.
(2) Non species specific narrow spectrum insecticidal applications
(3) Species-specific, broad Spectrum
(4) Non species-specific, broad spectrum
13. A colour blind man marries a woman with normal sight who has no history of colour blindness in her family. What is the probability of their grandson being colour blind?
- (1) 0.5 (2) Nil
(3) 1 (4) 0.25
14. The length of mRNA that carries information of complete polypeptide synthesis is called.
- (1) Muten (2) Operon
(3) Condon (4) Cistron
15. Humans have increased extinction vate by a factor of.
- (1) 10000 (2) 100
(3) 10 (4) 1000
16. The fungus penicilium notatum is used to obtain the drug :
- (1) Penicillin (2) Erythromycin
(3) Kanamyein (4) Streptomycetes

Section – B

17. Name the two primary lymphoid organs. State the importance of T-lymphocyte cycle [2 Mark]
18. How are malignant tumors different from benign tumors? Why are some patients treated with α -interferons?
19. Name the hormone with which a cow is administered?
20. What is the main idea behind joint forest management concept introduced by the government of India?
21. A female in your locality does not menstruate even after puberty. Doctor has told that she lacks one X chromosome suggest the name for this syndrome and state some other symptoms.

OR

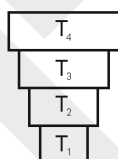
Through each pollen grain has two male gametes, at least 10 pollen grains (not 5) are required to fertilize 10 ovules present in particular carpel. Provide a suitable explanation for the above claim.

Section – C

22. Name and explain the surgical methods advised to human males & females as a means of birth control mention its one advantage and one disadvantage?
23. Explain the hormonal control of spermatogenesis in humans regulates by hormones FSH & LH.
24. Explain the hormonal control of spermatogenesis in humans regulated by hormones FSH & LH.
25. How do bio control agent control the target species Explain by giving some important examples.
26. Global Carbon is fixed in the biosphere through photosynthesis.
 - (a) Explain any two ways by which carbon is returned to the atmosphere through natural process.
 - (b) List any two human activities that have influenced the carbon cycle in nature.
27. (a) Write how parasite have evolved with adoption to co-exist with their hosts in an ecosystem.
 (b) Parasites are host specific and tend to coevolve. How would the parasites respond. If the host evolves a certain mechanism to resist or reject the parasite?
28. (a) Name an ideal Pyramid existing in an ecosystem construct it up to its three trophic levels along with their names.
 (b) The sun provide 1,00,000J of sunlight (solarenergy) to an ecosystem.
 Write the amount of energy that is available to the first and third trophic levels, respectively.

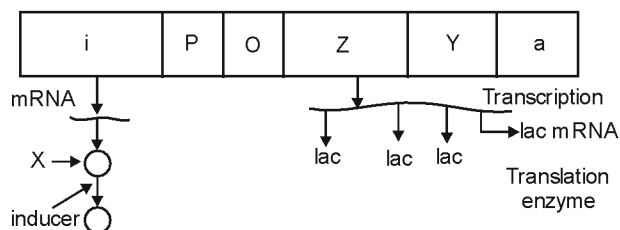
Section-D

29. The diagrammatic illustration of connection b/w different trophic levels is given alongside.



- (i) Identify the type of ecological pyramid and explain what do the base and the apex of this pyramid indicate?
- (ii) Give examples of such type of ecological pyramids with respect to number and biomass.

30. Study the figure given below and answer the following questions.



- (i) Identify the mol 'x' Synthesized by 'i' gene. How does this molecule get inactivated?
- (ii) Transcription the structural gene that does for β -Galactosidase
- (iii) Transcription of gene stops in the following condition.
 - (a) When energy source i.e. glucos is available to the cells
 - (b) When substrate lactose is not available.

Section – E

31. (i) Typhoid and pneumonia are bacterial disease that infect human beings. Mention their causative agents and symptoms.
 Also, mentions the way in which both the pathogens infect the human body.
 (ii) Give one viral disease and also mention its causative agent & vector.
32. What is an antibody? Give its structure and mention its different types.

Or

Hemophilia and colour blindness are sexlinked recessive disorders determined by the alteration or mutation in the single gene.

Evaluate the pattern of inheritance of both disorder in human beings with the helps of a cross. Also, predict the type of inheritance shown by these disorders.

33. With the help of a flow chart explain what are the various major approaches to conserve biodiversity.

Or

- (i) With the help of a flow chart, explain the events that occur fertilization in humans Also, mention the site of its occurrence.
- (ii) Successful fertilization leads to the absence of Menstruation in females give reason.