

Zoology Department  
Presidency College

Zoology Admission Test 2007

Full Marks : 100

Time : 2 Hours

All questions are to be answered.

(No extra sheet will be provided for answering the questions and therefore the answers of the questions are to be recorded in the available space adjacent to each of the questions)

- 1. Distinguish between the following :
  - a) Gullet and glottis

5X2

Gullet	Glottis

- b) Worker bee and drone

Worker bee	Drone

- c) Cyclostomata and Gnathostomata

Cyclostomata	Gnathostomata

d) Translocation and crossing-over

Translocation	Crossing Over

e) Scale of carp and scale of shark

Scale of carp	Scale of shark

2. Classify the following animals in reasonable order and give one salient character of each group :

7

Tiger, Honey bee, Silk worm, Cow, Achatina, Sea horse, Cray fish, Tsetse fly, Pearl oyster, Arenicola, Earthworm, Cock, Tuatara, Hawk, Sea mouse, Peacock, Pin worm, Gekko, Exocoetus and Ornithorychus.

Sl. No.	Animals in a group	Name of the group	One salient character of the group

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3. Mention the opposite term of the following and give one example of each in the space given below: 7½

<u>Term</u>	<u>Example</u>	<u>Term opposite in meaning</u>	<u>Example</u>
a) Prey			
b) Ratitae			

<u>Term</u>	<u>Definition</u>
c) Acoelomata	
d) Plankton	
e) Major pest	

4. Write the full form of the following abbreviations : 5

<u>Abbreviation</u>	<u>Expanded form</u>
a) EIA	
b) BHC	
c) JH	
d) IUD	
e) dATP	
f) NADP	

- g) OPV
- h) LSD
- i) STD
- j) LASER

5. Fill up the blanks :

- a) Two major components of pearl are  $\text{CaCO}_3$  and \_\_\_\_\_.
- b) Glossopharyngeal is the name of \_\_\_\_\_ cranial nerve.
- c) Madreporite is found in Phylum \_\_\_\_\_.
- d) Haemocoel is observed in \_\_\_\_\_.
- e) Starfish produces \_\_\_\_\_ larva.

5

6. Give precise definition of the following :

5X2

Term	Definition
Fishery	
Cloning	
Nymph	
Transgene	

Carrying capacity	

7. Following are the several diseases in animals. State the symptoms and cause of the diseases

5X2

Disease	Symptoms	Cause
Emphysema		
Dropsy		
Ranibket		
Sleeping sickness		

Flacherie		
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8. What do you mean by holometabolous and hemimetabolous insects? Give one example of each. Which animals show retrogressive metamorphosis?

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9. Name two megadiversity countries other than India. Who is Dolly? State the principle behind the production of Dolly.

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10. A man is colour blind but neither his mother nor his father is colour blind. Mention the genotypes of his parents. If he marries a female with the genotype as his mother, what is the probability that his only daughter will be a colour blind?

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11. State the relation between linkage and crossing over. Why crossing over frequency is taken as index of map distance between two linked genes? How many linkage groups are present in *Drosophila melanogaster*?

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12. The following flow charts represent the sequence of stages/events. Detect whether they are true or false. If any flow chart is detected false, then correct it with proper sequencing :

4

- a) Spermatogonium → Primary spermatocyte → Secondary spermatocyte → Spermatozoon.
- b) In Plasmodium : Microgamete & macrogamete → Zygote → Oocyst → Ookinete → Sporozoite.
- c) In the Cell : Food vacuole + Primary lysosome → Phagosome → Secondary lysosome → Residual body → Exocytosis.
- d) Flow of blood in guineapig : From Right auricle → Right ventricle → Pulmonary vein → Lung → Pulmonary artery → Left auricle → Left ventricle.

13. What is ectopic ascariasis ? Why for detection of Filaria, blood from patients is collected during night time?

4

14. Give the scientific name of the following :

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- a) Tiger prawn :
- b) Grass carp :
- c) Host plant of Endi silk moth :
- d) Vector transmitting causative agent of elephantiasis :
- e) Pest causing dead heart in paddy :

15. Match the following columns putting arrow:

6

Column I

Column II

- |                   |                        |
|-------------------|------------------------|
| 1. Microinjection | a) Polytene chromosome |
| 2. Nuclcin        | b) Malarial parasite   |
| 3. Balbiani Ring  | c) Poultry             |
| 4. Signet ring    | d) Transgenesis        |
| 5. Cochin         | e) AIDS                |
| 6. T lymphocyte   | f) DNA                 |

16. Give a labelled sketch of the pectoral girdle of guineapig :

6½