

Mrs. M. AHAMED NOWROSE BEGAM M.Sc., M.Phil., B.Ed., M.A., M.Phil., (Edn.)

PRINCIPAL, J.M. MATRIC. GIRLS HR. SEC. SCHOOL, CHENNAI – 6000 007

**HALF YEARY EXAMINATION
MODEL QUESTION PAPER - 1
HIGHER SECONDARY SECOND YEAR- DECEMBER 2022
ZOOLOGY ANSWER KEY**

NOTE:

TOTAL MARKS :70

1. Use blue or Black ink to write and underline and pencil to draw diagrams
2. Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer in Section -1
3. Put zero (0) mark provided in case of either option code or corresponding answer wrong.

Part –I

15 x 1 = 15

Answer all the questions.

1. a. allantois
2. d. semi conservative nature of DNA replication
3. c. conjugation
4. d. 150
5. b. IUCN
6. d. hygrometer
7. a. natural selection
8. b. natural
9. a. saliva of female Anopheles mosquito
10. a. allergic reaction
11. c. 6 months
12. b. Bergmann's rule
13. d. Co ₂
14. b. sedimentary rocks
15. a. Trichoderma polysporum

Part – II

Note: Answer any 6 questions. Question No. 24 is compulsory. 6 x 2 = 12		
16.	Buds formed on the outer surface of the parent body. When food is plenty ectoderm cells increase to form an elevation or bud. Ex. <i>Hydra</i> .	2
17.	Process of formation of gametes. Female gametes from ovary and male gametes from testes in sexually reproducing organisms.	2

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18.	Assisted Reproductive Technology. Collection of procedures to handle gametes and/or embryos outside the body to achieve pregnancy.	2
19.	The cluster of genes with related functions. Found next to each other and transcribed together to give a single mRNA. Ex. Prokaryotes	2
20.	Neanderthal man differs from modern man by having semierect posture, flat cranium, sloping forehead, thin large orbits, heavy brow ridges, protruding jaws and no chin.	2
21.	Eating junk foods that have high caloric values, rich in carbohydrates and fat can lead to obesity and early health issues.	2
22.	"Superbug" is a term used to describe strains of bacteria, resistant to majority of antibiotics commonly used today.	2
23.	Endemism is a situation in which a species is restricted to a particular geographic location such as an island, state, country etc. ex. Nilgiri Thar	2
24.	The yeast <i>Saccharomyces cerevisiae</i> is more suitable for production of recombinant interferons than <i>E. coli</i> , since <i>E. coli</i> does not possess the machinery for glycosylation of proteins.	2
Part –III		
Note: Answer any 6 questions. Question No. 33 is compulsory. 6 x 3 = 18		
25.	Avoid sex with unknown partner/ multiple partners. Use condoms. In case of doubt, consult a doctor for diagnosis and get complete treatment.	3×1=3
26.	Only one diploid female becomes a queen bee and lays the eggs for the colony. All other females help to raise the queen's eggs and so contribute to the queen's reproductive success and indirectly to their own. This phenomenon is known as Kin Selection.	3
27.	Zoonotic virus, transmitted from animals to humans. Also transmitted through contaminated food. Infected people suffer from asymptomatic infection, acute respiratory illness, fatal encephalitis	1 ½ 1 ½

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28.	Diagram Labelling the parts	1 ½ 1 ½
29.	Streptokinase is produced by the bacterium Streptococcus and genetically engineered Streptococci are used as “clot buster” for removing clots from the blood vessels of patients who have undergone myocardial infarction.	3
30.	Hibernation (winter sleep) are useful adaptations to overcome extreme cold conditions. Ex. Arctic fishes produce antifreeze proteins during winter Aestivation (Summer sleep) are useful adaptations to overcome extreme summers. Ex. Entamoeba produces heat resistant spores and cysts during hot summer.	3
31.	The population of sparrows is dwindling due to the use of packed food, insecticides in farming and changing lifestyles, and match box-styled architecture resulting in an inadequate availability of food and shelter for the birds. Unlike pigeons that can make nests on ledges, sparrows need cavities to build their nests.	3
32.	Regulate or control of pollutants discharge at the point of generation. Waste water can be pre-treated by scientific methods before discharge to municipal treatment sources. Public awareness and peoples’ involvement is essential.	3×1=3
33.	It is a very important diagnostic tool to determine if a person is HIV positive or negative. ELISA is a tool for determining serum antibody concentrations. It can detect the presence of specific antigens and hormones such as human chorionic gonadotropins. It is a highly sensitive and specific method used for diagnosis. (any three points)	3×1=3

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37. (a)	Types of vaccines - first generation vaccine and its types. second generation vaccines third generation vaccines - each with example	3 1 1
(OR)		
37.(b)	Steps involved in production of recombinant insulin - explanation with a diagram	4+1
38. (a)	Types of interspecific interactions - Amensalism - Mutualism - Commensalism - Competition - Parasitism- Predation (any five interactions)	5
(OR)		
38. (b)	Effects of air pollution - any five points	5×1= 5

ALL THE BEST!



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