

PART -A
ZOOLOGY

Qn. No.

Scoring indicators

Marks

PART - I

A Answer any 3 questions from 1 – 4. Each carry 1 score

1. Convergent evolution 1

2. Zygote Intra Fallopian Transfer 1

3. Cleavage 1

4. Ligases or DNA Ligases 1

B Answer all questions from 5 – 6. Each carry 1 score 1

5. Edward Wilson 1

6. Penicillin 1

PART - II

A Answer any 2 questions from 7 – 9. Each carry 2 scores

7. (a) Methionine / met
(b) UAA, UAG, UGA (Any two) 1+1 = 2

8. (a) secrete testicular hormones called androgens / Testosterone.
(b) secretes progesterone 1 + 1 = 2

9.

| A | B |
|---------------------------------|---------------|
| <i>Trichoderma polysporum</i> | Cyclosporin A |
| <i>Monascus purpureus</i> | Statin |
| <i>Saccharomyces cerevisiae</i> | Ethanol |
| <i>Aspergillus niger</i> | Citric acid |

 ½ x 4 = 2

(i) – (c)

(ii) – (d)

(iii) – (b)

(iv) – (a)

B Answer any 2 questions from 10 – 13. Each carry 2 scores

10. (i) – (a) Darwinism ½ x 4 = 2
(ii) – (b) Miller's experiment
(iii) – (c) Bigbang theory
(iv) – (d) Lamarkism

Qn. No.

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11. •Causes heart failure and hypertension.
 •Use of alcohol causes stomach ulcer and pancreatitis.
 •Causes lack of interest in personal hygiene, isolation, depression, aggressiveness etc.
 •Causes deteriorating relationship with family and friends change in eating and sleeping habit etc.
 •The excess usage of alcohol causes liver cirrhosis and damage to nervous system.
 •Use of drugs and alcohol during pregnancy adversely affect the foetus.
 •Drug users are prone to blood related diseases like AIDS, hepatitis B etc.
 •Drug and alcohol users finally may turn to criminals.

1/2 x 4 =2

(Any 4 relevant points)

12. (a) – Acrosome
 (b) – Acrosome is filled with lytic enzyme that helps in the penetration of ovarian wall layers / Helps in fertilization

1 + 1 =2

13. (a)

| Male heterogamety | Female heterogamety |
|---|---|
| Male are heterozygous regarding sex chromosome (XY /XO) | Female are heterozygous regarding sex chromosome |
| Male produce two types of gametes | Female produce two types of gametes |
| Type of male gamete will determine the sex of the progeny | Type of female gamete will determine the sex of the progeny |

- (b) Male heterogamety Eg :- Human/ Drosophila / Insects / Grasshopper
 Female heterogamety Eg :- Birds (Any one example)

1 + 1 = 2

PART – III

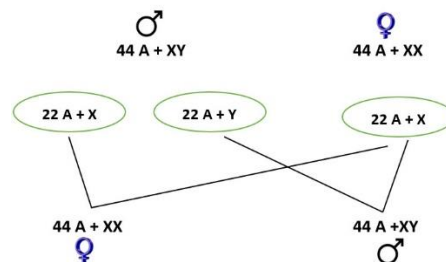
A Answer any 3 questions from 14 – 17. Each carry 3 scores

14. (a) Hardy Weinberg Equilibrium
 (b) Gene flow / genetic drift / mutation / genetic recombination / natural selection

1+2 =3

15. In human male individual are heterogametic regarding the sex chromosome.
 The male or father produce two types of gametes or sperm one with X chromosome and other with Y chromosome.
 Sperm with X chromosome fuses with egg to produce female child.
 Sperm with Y chromosome fuses with egg to produce male child.

OR



1 + 2 = 3

| Qn. No. | Scoring indicators | Marks |
|---------|--|----------|
| 16. | (a) Sexually Transmitted Diseases / venereal diseases / reproductive tract infections (b) Gonorrhoea, syphilis, genital herpes, chlamydia, genital warts, trichomoniasis, hepatitis-B, AIDS (Any four example) | 1+1+1 =3 |
| 17. | (a) Habitat loss and fragmentation, Over-exploitation, Alien species invasions & Co-extinctions (b) In situ conservation Eg :- Biosphere Reserves / National Park / Sanctuaries / Sacred Groves Ex situ Conservation Eg :- Botanical Gardens / Zoological Park / Seed bank / Cryopreservation /wild life safari Park / IVF/Tissue Culture (Any one example) | 1+1+1 =3 |

B Answer the following question. Carry 3 scores

| | | |
|-----|---|----------|
| 18. | (a) Deoxyribo Nucleic Acid James Watson & Francis Crick (b) Adenine, Thymine, Guanine, Cytosine / A,T,G,C | 1+1+1 =3 |
|-----|---|----------|

PART – IV

Answer any 1 question from 19 – 20. Each carry 5 scores

| | | |
|-----|---|----------|
| 19. | (a) Acquired Immuno Deficiency Syndrome Human Immuno deficiency Virus / HIV (b) ELISA Test / Enzyme Linked Immuno-sorbent Assay (C) Promoting widespread awareness about HIV and AIDS education. Use disposable syringe and needles. Proper monitoring of blood before blood transfusion. Condomise, which means using male or female condoms consistently and correctly. Control drug abuse. Avoid intercourse with unknown partner. (Any four relevant method) | 2+1+2 =5 |
| 20. | (a) A - Promoter B- Template strand (b) Process of formation of RNA from DNA (c) 3'-TACGTACGTA-5' | 2+2+1 =5 |