



Sample Paper-02

Class 12<sup>th</sup> NEET (2024)

## ZOOLOGY

### ANSWER KEY

1. (4)
2. (1)
3. (3)
4. (2)
5. (2)
6. (4)
7. (2)
8. (4)
9. (3)
10. (1)
11. (3)
12. (2)
13. (2)
14. (2)
15. (4)
16. (4)
17. (4)
18. (3)
19. (1)
20. (2)
21. (2)
22. (4)
23. (3)
24. (1)
25. (3)

26. (4)
27. (3)
28. (4)
29. (3)
30. (3)
31. (1)
32. (4)
33. (2)
34. (1)
35. (4)
36. (1)
37. (3)
38. (3)
39. (1)
40. (3)
41. (4)
42. (1)
43. (1)
44. (1)
45. (1)
46. (2)
47. (4)
48. (3)
49. (2)
50. (4)



## HINTS AND SOLUTION

1. (4)  
(a) – Cervix; (b) – Uterine cavity; (c) – Fallopian tube; (d) – Ovary
2. (1)  
Haploid- Secondary oocyte  
Diploid – Primary spermatocyte
3. (3)  
In the event of pregnancy, the corpus luteum persists under the influence of chorionic gonadotropin.
4. (2)  
Signals from fully developed foetus and placenta ultimately lead to parturition which requires the release of oxytocin from maternal pituitary.
5. (2)  
Vasopressin hormone is not a secretion product of human placenta.
6. (4)  
The earliest sign of pregnancy is absence of menstrual bleeding.
7. (2)  
The population of India is increasing due to increase in number of people reaching reproductive age.
8. (4)  
Progestogen or progestogen-estrogen combination pills helps in preventing pregnancy by not allowing ovulation and implantation.
9. (3)  
STDs lead to itching, fluid discharge, slight pain, swellings, pelvic inflammatory diseases (PID), ectopic pregnancies, still births, infertility, abortions, etc.
10. (1)  
In lactational amenorrhoea high level of prolactin inhibits the release of gonadotropins (FSH and LH).
11. (3)  
Population is the unit of evolution.
12. (2)  
The correct sequence of the substances appeared during the course of origin of life on earth was ammonia, amino acids, proteins and nucleic acids.
13. (2)  
Wings of birds and front feet of horse is a set of homologous organs.
14. (2)  
Equation of Hardy–Weinberg is depicted as  $P^2 + 2pq + q^2 = 1$
15. (4)  
Evolution of birds occurred in the Jurassic period.
16. (4)  
(A) – (IV); (B) – (III); (C) – (II); (D) – (I)
17. (4)  
All of these.
18. (3)  
Due to development of mutant strains resistant to antibiotics, antibiotics could not solve all the problems of bacteria mediated disease.
19. (1)  
(a) – four; (b) – two; (c) – light; (d) – two; (e) – heavy; (f) –  $H_2L_2$
20. (2)  
AIDS is mostly detected by ELISA.
21. (2)  
Morphine is a very effective pain killer and sedative used for patients who have undergone surgery.
22. (4)  
Tumour-inducing plasmid widely used in producing transgenic plants is *Agrobacterium tumefaciens*.



23. (3)  
16 DNA molecules are formed from a DNA template molecule after 4 PCR cycles.
24. (1)  
Sunfish and Dolphin are most distantly related.
25. (3)  
Construction of first rDNA by linking a gene encoding antibiotic resistance gene with native plasmid of *Salmonella typhimurium* was done by Stanley Cohen and Herbert Boyer.
26. (4)  
RNA mutates at a faster rate. Viruses having RNA genome and shorter life span mutate and evolve faster.
27. (3)  
Pathogenic to the plants cannot be associated with Ti plasmid of *Agrobacterium tumefaciens* which is modified into a cloning vector.
28. (4)  
All of these.
29. (3)  
Function of *Taq* polymerase in a PCR reaction is extension of primer end on the template DNA.
30. (3)  
Protein encoded gene *cryIAb* controls corn borer.
31. (1)  
Both Statement I and Statement II are correct.
32. (4)  
Both Statement I and Statement II are incorrect.
33. (2)  
The use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned without compensatory payment is called biopiracy.
34. (1)  
If due to some reason, B-and T-lymphocytes are damaged, the body will not produce antibodies against a pathogen.
35. (4)  
Size of thymus decreases with the advancement of age. Thymosin secretion plays a vital role in immunity.
36. (1)  
Vasa efferentia connects testes and epididymis.
37. (3)  
Corpus luteum is degenerating at the same time when menstruation is beginning.
38. (3)  
Secondary sex organs are concerned with the conduction of gametes.
39. (1)  
(A) – (II); (B) – (III); (C) – (IV); (D) – (I)
40. (3)  
(A) is false but (R) is true.
41. (4)  
According to Lamarckism, long-necked giraffes evolved because of stretching of necks over many generations by short necked ones.
42. (1)  
(a) and (b)
43. (1)  
Genetic drift concept is known as the Sewall Wright effect.
44. (1)  
A person without thymus would not be able to reject a tissue transplant.
45. (1)  
Malignant tumours may exhibit metastasis. Malignant tumours don't confine at the same location.



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| <p>46. (2)<br/>(a), (c), (d), (e) and (f)</p> <p>47. (4)<br/>(A) – (IV); (B) – (I); (C) – (II); (D) – (III)</p> <p>48. (3)<br/>Synthesis of estrogen and progesterone due to high level of hCG is a normal gonadotropic activity in a normal pregnant female.</p> | <p>49. (2)<br/>Rosie's milk contained human alpha lactalbumin.</p> <p>50. (4)<br/>In Gel electrophoresis, "the smaller the fragment size, the farther it moves".<br/>The separation of DNA segments by cutting out the gel is known as elution.</p> |
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