

INDIAN SCHOOL AL WADI AL KABIR

SAMPLE PAPER -3

Class XII – Biology

(044) Theory

Answer Key

SECTION A

1. Sporopollenin -outer wall -resistant ---(1)
2. 125----- (1)
3. Partially digest proteins+ improves nutritional value(B_{12})-----($1/2+1/2$)
4. Colostrum rich in antibodies -----(1)
5. Law of independent Assortment----(1)
6. genotype of i) carrier --(X^cX) ii) affected --(X^cX^c) / X^cY -----($1/2+1/2$)
7. two non-sense codons UAA/ UAG/ UGA----- ---($1/2+1/2$)
8. To link the alien piece of DNA with it and multiply its number-----(1)
9. palindrome sequence ($1/2$) +example ($1/2$)
10. Tropical Evergreen forest ---(1)
- 11-c

OR

- 11-c
- 12-a
13. -c
- 14.-a (1+1+1+1+1)
- 15 i- (ii) (a) and (b) are true
- ii) b
- iii) c
- iv) b
- v) c (1X4)
- 16 i)-c
- ii) b
- iii) (a) and (b) are true
- iv)-c
- v) a (1X4)

SECTION – B

17. estrogen and progesterone combination progesterone (1) + any two advantages ($1/2+1/2$)
 18. Turners syndrome (1) +any two symptoms ($1/2+1/2$)
 19. any 4 advantages of Integrated pest management programme ($1/2+1/2+1/2+1/2$)
 20. Illustration 4 step - ($1/2+1/2+1/2+1/2$)
- OR**
- labelled diagram (1)+ any two restriction sites ($1/2+1/2$)
 21. Biochemical characterization of Transforming Principle with different enzymes and conclusion ($1/2+1/2+1/2+1/2$)
 22. What is insertional inactivation (1)+ importance in rDNA technology(1)

OR

Four materials required to carry out the procedure of the PCR. (1/2+1/2+1/2+1/2)

23. the Species Area relationships any four pts. (1/2+1/2+1/2+1/2)

24. Definition (1) + one example (1)

25. Any two pts.(1+1)

SECTION – C

26. hormonal action of FSH and LH (1.5+1.5)

27. Starch synthesis (two alleles B & b)+ Size of starch grains influenced by the same gene Bb, Incomplete dominance- (1.5+1.5)

28. Explanation (2) + any two importance of the biological treatment of waste water (½+1/2)

29. Explanation of RNA silencing (1/2X6)

30.a) association- mutualism (1/2)+ reason for both benefiting (½+1/2)

b) Explanation of co evolution (1.5)

OR

a) Resemblance to the host eggs in size and colour to avoid rejection by the crow (host)

b) Commensalism (1/2) +reason (1/2)

c) Links ecology to population genetics and evolution. (1/2+1/2)

SECTION – D

31. a) Pituitary hormones – FSH and LH (1/2+1/2) +function – Follicular development + secretion of estrogen from the growing follicles (1/2+ 1/2)

b)i) 6 – 15 days – Follicular phase+ explanation (1/2+1/2)

ii) 16 – 25 days- luteal phase + explanation (1/2+1/2)

iii) 26 – 28 days (when ovum is not fertilized)-next menstrual cycle begins. + explanation (1/2+1/2)

OR

(a) A-placenta+ B-umbilical cord + C-amniotic fluid / amniotic sac+ D-foetus (1/2 X4)

(b) Any one function of placenta (1)

(c) amniotic fluid + explanation of amniocentesis (1/2 + 1.5)

32. procedure (2)+observation (1)+ conclusion (2)- Hershey- Chase experiment

OR

Meselson and Stahl's experiment - procedure (2)+observation (1)+ conclusion (2)

33. a) disease- auto-immune disease (1/2)

b) cause- body attacks self cells (1/2) +example (1/2)

c) cell type- T lymphocytes (1/2) + Acquired immunity/ CMI (1/2+1/2)

d) Explanation to organ transplant (1)

e) bioactive molecule- Cyclosporin A (1/2) +source- Trichoderma polysporum (1/2)

OR

A patient had tested positive to ELISA Test.

a) Disease-HIV-AIDS+ pathogen -HIV (1/2+1/2).

b) Path-diagram/ explanation (2)

c) Helper T lymphocytes decreases (1)

d) effects – opportunistic disease brief explanation (1)

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