

INDIAN SCHOOL AL WADI AL KABIR
SAMPLE PAPER 1
Class: XII - BIOLOGY (044) – SET I - ANSWER KEY

SECTION A

1. significance -Assured seed set in the absence of pollinators (1)
 2. coconut water-free nuclear endosperm + kernel-cellular endosperm ($\frac{1}{2}$ + $\frac{1}{2}$)
 3. meiotic divisions - $21+84=105$ (1)
 4. Pituitary hormone- LH + hormone from the cells- androgens ($\frac{1}{2}$ + $\frac{1}{2}$)
 5. inheritance – incomplete + pink ($\frac{1}{2}$ + $\frac{1}{2}$)
 6. Differentiation any one main point (1)
 7. UAG- stop codon so translation will stop with only 14 amino acids translated (1)
 8. absence of peptide C in mature insulin (1)
 9. main features in vectors engineered – easy linkage to foreign DNA + selection of recombinants from non- recombinants ($\frac{1}{2}$ + $\frac{1}{2}$)
 10. India have a greater ecosystem- Latitudinal gradient, closer to the equator ($\frac{1}{2}$ + $\frac{1}{2}$)
- 11.b) Both assertion and reason are true, but reason is not the correct explanation of assertion. (1)

OR

- a) Both assertion and reason are true, and the reason is the correct explanation of the assertion. (1)
12. a) Both assertion and reason are true, and the reason is the correct explanation of the assertion. (1)
13. c) Assertion is true but reason is false. (1)
14. c) Assertion is true but reason is false. (1)
15. i---d , ii—d, iii—a, iv—b, v—b (1X 4)
16. i—b, ii—c, iii—c, iv—a, v—a (1X 4)

SECTION – B

17. Saheli +any two reasons -non-steroidal, once a week, few side effects, high contraceptive value (1+ $\frac{1}{2}$ + $\frac{1}{2}$)
18. Klinefelter's syndrome + any two symptoms (1+ $\frac{1}{2}$ + $\frac{1}{2}$)
19. any four features of Acquired Immunity. ($\frac{1}{2}$ + $\frac{1}{2}$ + $\frac{1}{2}$ + $\frac{1}{2}$)
20. any two-method -micro-injection +disarmed pathogen (1+1)

OR

- Bioreactors definition + Simple stirred tank bioreactor any 2 pts. (1+½ +½)
21. will get double stranded + two different proteins, brief Explanation (1+1)
22. same sticky ends + easy to ligate, brief Explanation (1+1)

OR

- Low concentration of the virus can be detected by amplification of their nucleic acid+ even before the concentration of the pathogen becomes high to produce the symptoms. (1+1)
23. ex-situ conservation technique +any two pts of cryopreservation (1+½ +½)
24. any two chemical defense mechanism with examples (1+1)
25. Predation +mutualism + reason for both the interactions. (½ +½+½ +½)

SECTION – C

26. secondary host. ---Human ½+ Illustration 2½
27. diagram (1) + any four labelling (½ +½+½ +½)
28. Test cross (1) + 2 Punnett's square showing crosses (1+1)
29. G.E or rDNA (1/2) + Explain Bt cotton technique. 2½

30a) i) growth—logistic ii) K- carrying capacity (½ +½)

30b) any two importance of predators (1+1).

OR

Give reasons for the following:

- a) Lack physiological ability +bask in the sun to absorb heat+ move into shade when temp. drops down (any two pts. ½ +½)
b) Genetic diversity – single species showing high diversity at genetic level over its distribution range. (1)
c) To minimize heat loss (1/2) + Allen's rule (1/2)

SECTION – D

- 31.a) Blastocyst+ pregnancy (½ +½)
b) Description any two pts (1) +labelled diagram (1)
c) formation of the placenta. (1)
d) comment with two examples. (½ +½)

OR

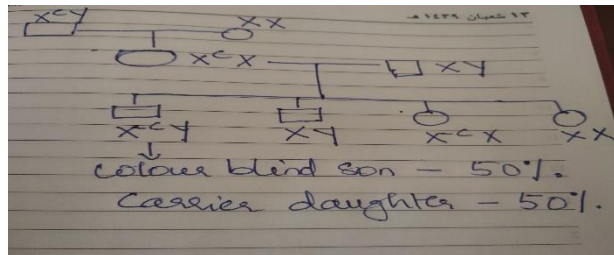
- a) structure of the Graafian follicle -any four pts (½ +½+½ +½)
b) briefly describe the stage- tertiary follicle (1/2) + any two pts On tertiary follicle (½)

+1/2)

c) ovulation (1/2)+ formation of corpus luteum , its function (1/2 +1/2)

32. a) Autosomal recessive trait (1) conclusion to be shown with respective genotype of affected and non-affected (1/2+1/2)

b) pedigree chart. (1) + illustration / explanation (1)



c) change in single b.p (1/2)+ substitution from GAG to GUG(1/2)

OR

a) Brief explanation of introns & exons (1)

b) two additional steps – splicing +capping and tailing -explanation / diagram with labelling (1+1+1)

c)charging of tRNA+ importance – formation of peptide bond (1/2 +1/2)

33a) i) disease – filariasis/elephantiasis + causative organism -Wuchereia (1/2 +1/2)

ii) Lymphatic vessels of the lower limbs (1)

iii) female mosquito vectors (1)

b) lose contact inhibition, form tumour cells (1/2 +1/2)

c)any one difference (1)

OR

a) any two difference (1+1)

b) Spleen – traps the blood borne antigen, this causes immune response (1) + MALT - Mucosal associated lymphoid tissue (1/2)

c) release of chemicals like histamine and serotonin (1/2 +1/2)+ antibody-IgE (1/2)

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