

Class: X
Subject: Biology
Topic: Heredity and Evolution
No. of Questions: 20
Duration: 60 Min
Maximum Marks: 60

1 The F₂ phenotype ratio of a monohybrid cross studied by Mendel is

- A. 1:1
- B. 2:1
- C. **3:1**
- D. 4:1

Ans. C Phenotype is the actual expressed traits or characteristics found within an organism.

2 If T is for tallness and t for dwarfness, what shall be the genotype of a tall pea plant according to Mendelism?

- A. TT
- B. Tt
- C. **Either TT or Tt**
- D. tt

Ans. C T (tallness) is dominant over t (dwarfness).

3 A Yellow and Round seeded pea plant has genotype YyRr. The gametes produced shall be

- A. Yy, Rr
- B. **YR, yR, Yr, yr**
- C. YR, yr
- D. Y, y, R, r

Ans. B These are the gam

4 If in human a sperm (22+Y) fertilizes an egg (22+X), the sex of the fetus shall be

- A. Male
- B. Female
- C. Either male or Female
- D. None of these

Ans. A

5 Forelimb of frog, lizard, bird and man has some evolutionary relationship. This are

- A. Hand relationship
- B. Missing links
- C. Analogous organs
- D. Homologous organs

6 The number of autosomes in a human body cell is

- A. 44
- B. 46
- C. 22
- D. 23

7 The theory of Natural Selection was proposed by

- A. Lamarck
- B. Darwin
- C. Mendel
- D. Haldane

8 How life might have originated on earth was experimentally shown by

- A. Urey and Miller
- B. Oparin and Haldane
- C. Watson and Crick
- D. None of the above

9 Surgically removing tails of mice over several generations' do not yield mice without tails.

This proves that

- A. Cutting tail does not cause genetic change. So it not inherited.
- B. Acquired characters during one's own life are not inherited.
- C. Neither a nor b is correct
- D. Both a and b are correct**

10 A random change in the frequency of alleles in any population over several generations due to errors in the gametes is called

- A. Gene flow
- B. Genetic Drift**
- C. Genetic error
- D. Genetic crash

11 The organs which perform different functions but have the same basic structure are called:

- A. Vestigial organs
- B. Analogous organs
- C. Homologous organs**
- D. Analytic organs

12 While digging fossils are found at deeper layers of the earth, we can conclude

- A. Fossil is the most recent
- B. Fossil is very old maybe more than thousand years**
- C. Fossil maybe old or recent, its position is irrelevant
- D. Fossil age cannot be computed

13 Wings of an insect and a bird are an example of

- A. Analogous organs**
- B. Vestigial organs
- C. Homologous organs
- D. Analytic organs

14 Vermiform appendix is an example of

- A. Analogous organs
- B. Vestigial organs**
- C. Homologous organs
- D. Analytic organs

15 A trait in an offspring is influenced by

- A. DNA of mother gamete
- B. DNA of father gamete
- C. Both DNAs of mother and father gamete**
- D. Neither of mother or father gamete DNA

16 On crossing tall plant with dwarf plant Mendel found that the ratio of dwarf plants in F₂ generation was?

- A. 25%**
- B. 40%
- C. 60%
- D. 75%

17 Gamete cells are

- A. Diploid
- B. Haploid**
- C. Either diploid or haploid
- D. None of these

18 Human babies will be a female if its 23rd chromosome pair is

- A. XX**
- B. XY
- C. YY
- D. XYY

19 Who proposed the hypothesis that life must have developed from simple inorganic molecules which were present soon after they were formed?

- A. Miller
- B. Urey
- C. Darwin
- D. Haldane

20 Mendel observed 7 pairs of contrasting characters in *Pisum sativum*. One of the following is not apart of that. Find out.

- A. Tall and dwarf
- B. Yellow and green seed color
- C. Terminal and axial flower
- D. Smooth and rough stem

ANSWER KEY

- 1. C
- 2. C
- 3. B
- 4. A
- 5. D
- 6. A
- 7. B
- 8. A
- 9. D
- 10. B
- 11. C
- 12. B
- 13. A
- 14. B
- 15. C
- 16. A
- 17. B
- 18. A
- 19. d
- 20. D