

CBSE Class 10 Science MCQ Chapter 9 Heredity and Evolution

Q1) Mendel conducted his famous breeding experiments by working on:-

- (a) *Drosophila*
- (b) *Escherichia coli*
- (c) *Pisum Sativum*
- (d) All of these

Correct Answer: Option (c)

Q2) Which section of DNA provides information for one protein?

- (a) Nucleus
- (b) Chromosome
- (c) Trait
- (d) Gene

Correct Answer: Option (d)

Q3) Which of the following is an example of genetic variation?

- (a) One person has a scar but his friend doesn't
- (b) One person is older than the other
- (c) Reeta eats meat but her sister Geeta is a vegetarian.
- (d) Two children have different eye color

Correct Answer: Option (d)

Q4) In peas, a pure tall (TT) is crossed with a pure short plant(tt). The ratio of pure tall plants to pure short plants in F₂ generation is:

- (a) 1:3
- (b) 3:1
- (c) 1:1
- (d) 2:1

Correct Answer: Option (c)

Q5) Humans have two different sex chromosomes, X and Y. Based on the Mendel's laws, a male offspring will inherit which combination of chromosomes?

- (a) both the X chromosomes from one of its parents
- (b) both the Y chromosomes from one of its parents
- (c) combination of X chromosomes from either of its parents
- (d) combination of X and Y chromosome from either of its parents

Correct Answer: Option (d)

Q6) Two pea plants one with round green seeds (RR yy) and another with wrinkled yellow (rr YY) seeds produce F_1 progeny that have round yellow (RrYy) seeds. When F_1 plants are self pollinated, the F_2 progeny will have a new combination of characters. Choose the new combinations from the following:

- (i) Round, yellow
- (ii) Round, green
- (iii) Wrinkled, Yellow
- (iv) Wrinkled, green

(a) (i) and (ii)

(b) (i) and (iv)

(c) (ii) and (iii)

(d) (i) and (iii)

Correct Answer: Option (b)

Q7) Miller and Urey performed an experiment to prove the origin of life from organic compounds.

The gases they took were:-

- (a) methane, ethane, ammonia, water vapour
- (b) methane, ethane, hydrogen, ammonia
- (c) ammonia, water vapour, butane, hydrogen
- (d) methane, ammonia, hydrogen, water vapour

Correct Answer: Option (d)

Q8) Which of these is a pair of an analogous organ?

- (a) wings of a pigeon and a bat
- (b) forelimbs of a frog and a bird
- (c) forelimbs of a rabbit and a lizard
- (d) leaves of a pitcher plant and a Venus fly trap

Correct Answer: Option (a)

Q9) Two pink coloured flowers on crossing resulted in 1 red, 2 pink and 1 white flower progeny. The nature of cross will be:-

- (a) Double Fertilization
- (b) Self Pollination
- (c) Cross Fertilization
- (d) Nofertilization

Correct Answer: Option (c)

Q10) A zygote which has an X-chromosome inherited from the father will develop into a:

- (a) boy
- (b) girl
- (c) X-Chromosome does not determine the sex of a child
- (d) either boy or girl

Correct Answer: Option (b)

Q11) The surprise products formed in experiment conducted by Miller and Urey were:-

- (a) Peptides
- (b) Amino acids
- (c) Nucleotides
- (d) Nucleic acids

Correct Answer: Option (b)

Q12) From the list given below select the character which can be acquired but not inherited:

- (a) colour of eyes
- (b) colour of skin
- (c) texture of hair
- (d) size of body

Correct Answer: Option (d)

Q13) In humans if gene B gives brown eyes and gene b gives blue eyes, what will be the colour of eyes of the person having combination (i) Bb (ii) BB:

- (a) (i) Brown (ii) Brown
- (b) (i) Blue (ii) Blue
- (c) (i) Blue (ii) Brown
- (d) (i) Brown (ii) Blue

Correct Answer: Option (a)

Q14) What is the probability that the male progeny will be a boy?

- (a) 50 %
- (b) 56 %
- (c) 47.43 %
- (d) It varies

Correct Answer: Option (a)

Q15) Darwin's theory does not include:

- (a) Natural Selection
- (b) Survival of the fittest
- (c) Evolution Through Inheritance
- (d) Struggle for existence of life

Correct Answer: Option (c)

Q16) In pea plants, yellow seeds are dominant to green seeds. If a heterozygous yellow seeded plant is crossed with a green seeded plant, what ratio of yellow and green seeded plants would you expect in F_1 generation?

- (a) 9:1
- (b) 3:1
- (c) 1:3
- (d) 50:50

Correct Answer: Option (d)

Q17) Which of the following statements is not true with respect to variation?

- (a) All variations in a species have equal chances of survival.
- (b) Change in genetic composition results in invariation.
- (c) Selection of variants by environmental factors forms the basis of evolutionary processes.
- (d) Variation is minimum in in asexual reproduction

Correct Answer: Option (a)

Q18) The two versions of a trait (character) which are brought in by the male and female gametes are situated on :-

- (a) Copies of same (homologous) chromosomes
- (b) Two different chromosomes
- (c) Sexchromosomes
- (d) Any Chromosomes

Correct Answer: Option (a)

Q19) Exchange of genetic material takes place in:-

- (a) Vegetativereproduction
- (b) Asexualreproduction
- (c) Sexual reproduction
- (d) Budding

Correct Answer: Option (c)

