

PYQSide

NEET PRINCIPLES OF INHERITANCE AND VARIATION — SEX DETERMINATION (HUMANS, BIRDS, HONEY BEE, GRASSHOPPER) — PYQS

Max. Marks: 52

Questions: 13

Section A (MCQ)

Q.1 Which of the following statements are true with reference to the sex-determination in honeybees?

- A. An offspring formed from the union of a sperm and an egg, develops as a female (queen or worker).
- B. An unfertilized egg develops as a male by parthenogenesis.
- C. A male has half the number of chromosomes than that of a female.
- D. Males produce sperms by meiosis.
- E. Honeybees have a haplodiploid sex-determination system.

Choose the correct answer from the options given below :

[NEET (UG) 2026]

- (1) A, B, C and E only (2) A, B, C and D only
(3) B, C, D and E only (4) A, B, D and E only

Scan or tap for the
full solution



Q.2 In a population of a grasshopper species, the chromosome number of some members is 23 and some other members possess 24 chromosomes. The 23 and 24 chromosome-bearing members in this species are _____.

[NEET (UG) 2026]

- (1) females and males, respectively
(2) males and females, respectively
(3) all males
(4) all females

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Q.3 XO type of sex determination can be found in :

[NEET (UG) 2022]

- (1) *Drosophila* (2) Birds
(3) Grasshoppers (4) Monkeys

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Q.4 Select the **incorrect** statement. [NEET (UG) 2019]

- (1) In domesticated fowls, sex of progeny depends on the type of sperm rather than egg.
(2) Human males have one of their sex-chromosome much shorter than the other.
(3) Male fruit fly is heterogametic
(4) In male grasshoppers, 50% of sperms have no sex-chromosome.

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Q.5 In our society women are blamed for producing female children. Choose the correct answer for the sex-determination in humans.

[NEET 2013 (Karnataka)]

- (1) Due to some defect like aspermia in man
(2) Due to the genetic make up of the particular sperm which fertilizes the egg
(3) Due to the genetic make up of the egg
(4) Due to some defect in the women

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Q.6 Which one of the following conditions of the zygotic cell would lead to the birth of a normal human female child?

[AIPMT 2011 (Mains)]

- (1) only one Y chromosome
(2) only one X chromosome
(3) one X and one Y chromosome
(4) two X chromosomes

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Q.7 Which one of the following conditions correctly describes the manner of determining the sex ?

[AIPMT 2011 (Prelims)]

- (1) XO condition in humans as found in Turner Syndrome, determines female sex
(2) XO type of sex chromosomes determine male sex in grasshopper
(3) Homozygous sex chromosomes (ZZ) determine female sex in Birds
(4) Homozygous sex chromosomes (XX) produce male in *Drosophila*

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Q.8 Pattern baldness, moustaches and beard in human males are examples of: [AIPMT 2003]

- (1) Sex limited traits
- (2) Sex influenced traits
- (3) Sex determining traits
- (4) Sex linked traits

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Q.9 In *Drosophila*, the sex is determined by:

[AIPMT 2003]

- (1) X and Y chromosomes
- (2) Whether the egg is fertilized or develops parthenogenetically
- (3) The ratio of number of X-chromosomes to the sets of autosomes
- (4) The ratio of pairs of X-chromosomes to the pairs of autosomes

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Q.10 Number of Barr bodies in XXXX female is

[AIPMT 2001]

- (1) 3 (2) 1 (3) 2 (4) 4

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Q.11 Male XX and female XY sometime occur due to

[AIPMT 2001]

- (1) Aneuploidy
- (2) Deletion
- (3) Transfer of segments in X and Y chromosomes
- (4) Hormonal imbalance

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Q.12 Probability of four sons to a couple is : -

[AIPMT 2001]

- (1) $\frac{1}{16}$ (2) $\frac{1}{8}$ (3) $\frac{1}{4}$ (4) $\frac{1}{32}$

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Q.13 In *Drosophila* the XXY condition leads to femaleness whereas in human beings the same condition leads to Klinefelter's syndrome in male. It proves: [AIPMT 2000]

- (1) Y chromosome is active in sex determination in both human beings and *Drosophila*
- (2) In *Drosophila* Y-chromosome decides femaleness
- (3) Y chromosome of man have genes for syndrome
- (4) In human beings Y chromosome is active in sex determination

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	1	2	3	1	2	4	2	2	4	1	3
Ques.	12	13									
Ans.	1	4									