

NEET PRINCIPLES OF INHERITANCE AND VARIATION — GENETIC DISORDERS: CHROMOSOMAL (DOWN'S, KLINEFELTER'S, TURNER'S) — PYQS

Max. Marks: 72

Questions: 18

Section A (MCQ) — 18 questions

Q.1 Given below are two statements:

Statement-I: Down's syndrome is caused by the absence of one of the X-chromosomes.

Statement-II: Turner's syndrome is caused by the presence of an additional copy of the chromosomes.

In the light of the above statements, choose the correct answer from the options given below:

[RE-NEET (UG) 2026]

- (1) Statement-I is incorrect but Statement-II is correct
- (2) Both Statement-I and Statement-II are correct
- (3) Both Statement-I and Statement-II are incorrect
- (4) Statement-I is correct but Statement-II is incorrect

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Q.2 Given below are two statements:

Statement-I: Failure of segregation of chromatids during cell cycle resulting in the gain or loss of whole set of chromosome in an organism is known as aneuploidy.

Statement-II: Failure of cytokinesis after anaphase stage of cell division results in the gain or loss of a chromosome is called polyploidy.

In the light of the above statements, choose the correct answer from the options given below:

[RE-NEET (UG) 2024]

- (1) Statement-I is true but Statement-II is false
- (2) Statement-I is false but Statement-II is true
- (3) Both Statement-I and Statement-II are true
- (4) Both Statement-I and Statement-II are false

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Q.3 Aneuploidy is a chromosomal disorder where chromosome number is not the exact copy of its haploid set of chromosomes, due to :

- A. Substitution
- B. Addition
- C. Deletion
- D. Translocation
- E. Inversion

Choose the most appropriate answer from the options given below :

[RE-NEET (UG) 2024]

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

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Q.4 Which of the following statements are correct about Klinefelter's Syndrome?

- A. This disorder was first described by Langdon Down (1866).
- B. Such an individual has overall masculine development. However, the feminine development is also expressed.
- C. The affected individual is short statured.
- D. Physical, psychomotor and mental development is retarded.
- E. Such individuals are sterile.

Choose the correct answer from the options given below :

[NEET (UG) 2023]

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

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Q.5 Broad palm with single palm crease is visible in a person suffering from-

[NEET (UG) 2023]

- (1) Turner's syndrome
- (2) Klinefelter's syndrome
- (3) Thalassemia
- (4) Down's syndrome

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Q.6 If a female individual is with small round head, furrowed tongue, partially open mouth and broad palm with characteristic palm crease. Also the physical, psychomotor and mental development is retarded. The karyotype analysis of such an individual will show :

[NEET (UG) 2022 (Phase 2)]

- (1) Trisomy of chromosome 21
- (2) 47 chromosomes with XXY sex chromosomes
- (3) 45 chromosomes with XO sex chromosomes
- (4) 47 chromosomes with XYY sex chromosomes

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Q.7 What is the genetic disorder in which an individual has an overall masculine development, gynaecomastia, and is sterile? [NEET (UG) 2019]

- (1) Edward syndrome (2) Down's syndrome
(3) Turner's syndrome (4) Klinefelter's syndrome

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Q.8 A disease caused by an autosomal primary non-disjunction is : [NEET 2017]

- (1) Klinefelter's Syndrome
(2) Down's Syndrome
(3) Turner's Syndrome
(4) Sickle Cell Anemia

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Q.9 A cell at telophase stage is observed by a student in a plant brought from the field. He tells his teacher that this cell is not like other cells at telophase stage. There is no formation of cell plate and thus the cell is containing more number of chromosomes as compared to other dividing cells. This would result in - [NEET 2016 (Phase 1)]

- (1) Polyteny (2) Aneuploidy
(3) Polyploidy (4) Somaclonal variation

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Q.10 An abnormal human baby with 'XXX' sex chromosomes was born due to [AIPMT 2015 (Cancelled)]

- (1) formation of abnormal sperms in the father
(2) fusion of two ova and one sperm
(3) formation of abnormal ova in the mother
(4) fusion of two sperms and one ovum

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Q.11 Down's syndrome in humans is due to :

[NEET 2013 (Karnataka)]

- (1) Three 'X' chromosomes
(2) Monosomy
(3) Three copies of chromosome 21
(4) Two 'Y' chromosomes

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Q.12 Which one of the following conditions in humans is correctly matched with its chromosomal abnormality/linkage? [AIPMT 2008]

- (1) Klinefelter's syndrome — 44 autosomes + XXY
(2) Colour-blindness — Y-linked
(3) Down syndrome — 44 autosomes + XO
(4) Erythroblastosis foetalis — X-linked

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Q.13 Cri-du-chat syndrome in humans is caused by the- [AIPMT 2006]

- (1) Loss of half of the long arm of chromosome 5
(2) Loss of half of the short arm of chromosome 5
(3) Trisomy of 21st chromosome
(4) Fertilization of an XX egg by a normal Y-bearing sperm

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Q.14 A woman with 47 chromosomes due to three copies of chromosome 21 is characterized by - [AIPMT 2005]

- (1) Superfemaleness (2) Turner's syndrome
(3) Triploidy (4) Down's syndrome

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Q.15 A woman with 47 chromosomes due to three copies of chromosome 21 is characterized by [AIPMT 2005]

- (1) triploidy (2) Down's syndrome
(3) superfemaleness (4) Turner's syndrome

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Q.16 Down's syndrome is caused by an extra copy of chromosome number 21. What percentage of offspring produced by an affected mother and a normal father would be affected by this disorder? [AIPMT 2003]

- (1) 50% (2) 100% (3) 75% (4) 25%

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Q.17 Which of the following is a correct match - [AIPMT 2002]

- (1) Sickle cell anaemia = X – Chromosome
(2) Down Syndrome = 21st Chromosome
(3) Haemophilia = Y – Chromosome
(4) Parkinson Disease = X & Y Chromosome

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Q.18 Mongolian idiots are due to trisomy in 21st chromosome is called: [AIPMT 2000]

- (1) Klinefelter's syndrome
- (2) Down's syndrome
- (3) Turner's syndrome
- (4) Triples syndrome

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full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	3	4	4	2	4	1	4	2	3	3	3
Ques.	12	13	14	15	16	17	18				
Ans.	1	2	4	2	1	2	2				