

C 40444

(Pages 2)

Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2013

(CCSS)

Z06 B17 (E) 03-Core XI—Elective III—HUMAN GENETICS

Time : Three Hours

Maximum : 30 Weightage

*Answer may be written either in English or Malayalam.
Give illustrations wherever necessary.*

I. Answer all *twelve* questions. Each question carries 0.25 Weightage.

A. Objective type questions :

1 An X-linked Recessive inheritance is :

- (a) Duchene's muscular dystrophy.
- (b) Myotonic dystrophy.
- (c) Cystic fibrosis.
- (d) Hypophosphatemia.

2 Martin-Bell syndrome is caused by :

- (a) Fragile x-chromosome.
- (b) Ring chromosome.
- (c) Suicidal genes.
- (d) Mitochondrial chromosome.

3 One of the following is an Autosomal anomaly :

- (a) Edwards syndrome.
- (b) Lesch-Nyhan syndrome.
- (c) Klinefelter's syndrome.
- (d) Turner syndrome.

4 A Photograph of a complete complement of chromosomes from a cell shows :

- (a) Karyotype.
- (b) Ligand.
- (c) Genotype.
- (d) Domain.

B. Name the following :

5 DNA genome of mitochondria.

6 A Chromosomal disorder due to Autosomal trisomy of chromosome number 21 is.

7 Heat stable DNA polymerase used in PCR technique.

8 Genes that cause a cell to kill itself through Apoptosis.

C. Fill up the blanks :

9 ——— Will cause an abnormally low level of phosphate in the blood.

10 ——— is a prenatal diagnosis that allows direct observation of a foetus.

Turn over

- 11 _____ is a genetic disorder characterized by high cholesterol level.
12 _____ is largest known Human gene

(12 × ¼ = 3 weightage)

II. Short Answer Questions. Answer all *nine* questions :

- 13 What are Premature Chromosomes ?
14 Distinguish between Eco genetics and Evolutionary genetics.
15 What is Apoptosis ?
16 What is Pedigree analysis ?
17 What are Autosomes and Allosomes ?
18 What is Genetic imprinting ?
19 What are Multifactorial diseases? Write an example.
20 What is Myotonic muscular dystrophy ?
21 What is Congenital Adrenal Hyperplasia ?

(9 × 1 = 9 weightage)

III. Short answer questions. Answer any *five* questions :

- 22 What are the Ethical aspects of Gene therapy ?
23 Explain Aneuploidy with reason ?
24 Explain the Banding techniques of Chromosomes.
25 What is Human Genome Project ? What are the major findings of HGP ?
26 What is Cystic fibrosis ? Mention its symptoms.
27 What is Genetic Counseling ? Explain the scope of Genetic Counseling.
28 Explain the Biology of Twinning.

(5 × 2 = 10 weightage)

IV. Essay Questions. Answer any *two* questions :

- 29 Write an essay on Prenatal Diagnosis.
30 Write an essay on PCR.
31 Write an essay on DNA Sequencing.

(2 × 4 = 8 weightage)