

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)  
BSc DEGREE EXAMINATION DECEMBER 2018  
(Second Semester)

Branch - **BIOTECHNOLOGY**

**CLINICAL GENETICS**

Time : Three Hours

Maximum : 75 Marks

**SECTION-A (20 Marks)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** marks

(10x2 = 20)

- 1 What is heteroplasmy?
- 2 Give an account on genetic linkage.
- 3 What do you know about sickle cell disease?
- 4 Define induced mutation.
- 5 What is thalassemia?
- 6 Write short notes on X-inactivation.
- 7 Define OMIM.
- 8 Give an examples of autosomal recessive diseases.
- 9 Define arithmetic mean.
- 10 What do you mean by repression?

**SECTION - B 125 Marks!**

Answer **ALL** Questions

**ALL** Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Explain the inborn error of aromatic amino acid metabolism.

OR

b Discuss the gene mapping.

- 12 a Write a note on abnormal chromosome structure.

OR

b How is chorionic villus sampling test conducted for prenatal diagnosis of genetic disease?

- 13 a Explain the genomic imprinting.

OR

b Discuss on the X-linked dominant inheritance.

- 14 a Give the clinical features and complications of diabetes mellitus.

OR

b Write a note on polygenic disorders.

- 15 a Calculate the median height.

Height (CMS)	145-150	150-155	155-160	160-165	165-170	170-175
No of Students	2	5	10	8	4	1

OR

b The following data were obtained while observing the life span of a few neon lights of a company. Calculate S.D

Life Span (Years)	4-6	6-8	8-10	10-12	12-14	Total
No. of Neon lights	10	17	32	21	20	100

**SECTION - C (30 Marks)**

Answer any **THREE** Questions

**ALL** Questions Carry **EQUAL** Marks ( 3 x 10 = 30)

- 16 Briefly discuss the any two Mendel's law of inheritance.
- 17 Explain the following: i) Down's Syndrome ii) Alzhemier's disorder
- 18 Enumerate on the causes, Symptoms and diagnosis of the Haemophilia A and colour blindness.
- 19 Write an essay on autosomal dominant diseases.

The following table gives aptitude test scores and productivity indices of 8 randomly selected workers:

Aptitude score:	57	58	59	59	60	61	62	64
Productivity index:	67	68	65	68	72	72	69	71

Calculate the correlation coefficient between aptitude score and productivity index.

Z-Z-Z

END