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B—156—2019

FACULTY OF SCIENCE

B.Sc. (Third Semester) EXAMINATION

MARCH/APRIL 2019

(CBCS/CGPA Pattern)

ZOOLOGY

Paper VI

(Genetics)

(MCQ & Theory)

(Thursday, 4-4-2019)

Time : 2.00 p.m. to 4.00 p.m.

Time—2 Hours

Maximum Marks—40

N.B. :— (i) All questions are compulsory.

(ii) All questions carry equal marks.

(iii) Draw neat and labelled diagrams wherever necessary.

MCQs

1. Select the *correct* answer from the given multiple choices : 10

(i) Mendel the father of Genetics was born in a peasant family in Austria in :

(a) 1622

(b) 1722

(c) 1822

(d) 1922

(ii) The ratio of inhibitory factor in F_2 generation is :

(a) 9 : 7

(b) 9 : 3 : 4

(c) 15 : 1

(d) 13 : 3

(iii) The persons of AB blood group contain :

(a) Antigen A

(b) Antigen B

(c) Antigen A and B

(d) No antigens

P.T.O.

- (iv) The linkage in which the chromosomes do not break and the linked genes inherited together for many generations, is called as :
- (a) Complete linkage (b) Incomplete linkage
(c) Crossing-over (d) None of these
- (v) The female *Drosophila* is :
- (a) Heterogametic (b) Homogametic
(c) Polygametic (d) Metagametic
- (vi) Certain genes which are present in allosomes control the somatic characters, such genes are called :
- (a) Dominant genes (b) Recessive genes
(c) Sex-linked genes (d) Lethal genes
- (vii) The transmission of characters controlled by plasmagenes is called :
- (a) Cytoplasmic inheritance (b) Sex-linked inheritance
(c) Straight inheritance (d) Criss-cross inheritance
- (viii) A genetic disease caused by an additional X-chromosome in human male is called :
- (a) Patau's syndrome (b) Down's syndrome
(c) Turner's syndrome (d) Klinefelter's syndrome
- (ix) Phenylpyruvic idiots also known as :
- (a) Phenylketonuria (b) Alkaptonuria
(c) Albinism (d) Sickle cell anaemia
- (x) Who first isolated nucleic acid from the nuclei of pus cells ?
- (a) Watson (b) Miescher
(c) Crick (d) Morgan

Theory

2. Define Genetics and explain Mendel's law of inheritance. 10

Or

Write short notes on :

- (a) Duplicate genes
- (b) Phenylketonuria.

3. Define multiple genes and explain skin pigmentation in man. 10

Or

Write short notes on :

- (a) Factors affecting crossing over
- (b) Turner's syndrome.

4. What is Mutation ? Describe structural alternation in chromosome. 10

Or

Write short notes on :

- (i) Haemophilia
- (ii) Structure of DNA.