

This question paper contains 3 printed pages]

**AO—113—2018**  
**FACULTY OF SCIENCE**  
**B.Sc. (Third Semester) EXAMINATION**  
**MARCH/APRIL, 2018**  
**(CBCS/CGPA)**  
**ZOOLOGY**  
**Paper VI**  
**(Genetics)**  
**(MCQ+Theory)**

**(Wednesday, 4-4-2018)**

**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.*

**(MCQ)**

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

(i) The term genetics was coined by .....

(a) Mendel (b) William Bateson

(c) DeVries (d) Morgan

(ii) The genetic make up of organism is called as .....

(a) Phenotypes (b) Genotypes

(c) Alleles (d) Genomes

(iii) A disease caused by recessive lethal genes in man is .....

(a) Sickle cell anaemia (b) Colourblindness

(c) Haemophilia (d) Hypertrichosis

(iv) The Rh blood group was discovered by .....

(a) Landsteiner and Winener

(b) Bateson and Punnet

(c) Watson and Crick

(d) Malpighi

P.T.O.

- (v) The ratio between the X chromosome and autosomes is called as .....
- (a) Sex ratio (b) Sex index  
(c) Sex-determining ratio (d) Both (B) and (C)
- (vi) The point of contact between two non-sister chromatids is called as .....
- (a) Chiasma (b) Diad  
(c) Tetrad (d) Synapse
- (vii) The human female is .....
- (a) Homogametic (b) Heterogametic  
(c) Polygametic (d) Isogametic
- (viii) The term mutation was introduced by .....
- (a) Darwin (b) Dobzhansky  
(c) DeVries (d) Mendel
- (ix) The accumulation of homogentisic acid in the blood is called as .....
- (a) Alkaptonuria (b) Phenylketonuria  
(c) Albinism (d) Critichat syndrome
- (x) The Okazaki fragments are joined by an enzyme .....
- (a) DNA polymerase (b) DNA ligase  
(c) RNA polymerase (d) Endonuclease

**(Theory)**

2. Describe Mendel's dihybrid cross with a suitable example. 10

*Or*

Write short notes on :

- (a) Laws of Dominance  
(b) Types of RNA.
3. Define multiple alleles ? Explain the inheritance of blood group in man. 10

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( 3 )

AO—113—2018

*Or*

Write short notes on :

- (a) Significance of crossing over
- (b) Sickle cell anaemia.

4. Describe bridges ratio theory of genic balance.

10

*Or*

Write short notes on :

- (a) Polyploidy
- (b) DNA structure.

AO—113—2018

3