) 70980 (Pages 2) Name.....

Reg. No.....

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FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2014

(UG–CCSS)

Core Course

Zoology

ZO 5B 10—CELL BIOLOGY, GENETICS AND MOLECULAR BIOLOGY

Time : Three Hours Maximum : 30 Weightage

I. Answer all *twelve* questions. Each question carries ¼ weightage :

A. Objective type questions :

1 Holandric gene are located on :

(a) X chromosome. (b) Y chromosome.

(c) Autosome. (d) First pair of chromosome.

2 One gene-one enzyme hypothesis was proposed by :

(a) Sutton and Boveri. (b) Watson and Crick.

(c) Jacob and Monod. (d) Beadle and Tatum.

3 Lysosomes are formed from :

(a) Golgi complex. (b) Mitochondria.

(c) Endoplasmic reticulum. (d) Ribosomes.

4 Histones are rich in :

(a) Tryptophan and Valine.

(b) Arginine and Lysine.

(c) Glutamic acid and Aspartic acid.

(d) Cysteine and Methionine.

B. Name the following :—

5 Inactive and condensed X chromosome found in female mammals.

6 Scientist who proposed Genie balance theory.

7 Initiation codon on mRNA.

8 Specialized proteins that allow the denatured proteins to refold correctly.

C. Fill up the blanks :

9 Ribosomes were discovered by ————,

10 Basic proteins associated with DNA in chromatin are ————.

11 Diagramatic representation of karyotype of an organism is ————.

12 ———— is the Inducer of lac operon in *E.coli*.

(12 × ¼ = 3 weightage

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

13 Write the functions of Lysosomes.

14 What are Proteasomes ?

15 What are Nucleosomes ?

16 Explain Sex limited inheritance.

17 Explain Induced mutations.

18 What is Erythroblastosis foetalis ?

19 Explain C- value paradox.

20 Wnat is Reverse transcription ?

21 What is Pedigree analysis ?

(9 × 1 = 9 weightag

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

22 What are Lampbrush chromosomes ? Explain its structure.

23 Explain Sex linked inheritance in man.

24 What are the modifications of plasma membrane ? Explain it.

25 Describe the structure and functions of Golgi complex.

26 Explain the pattern of inheritance of shell coiling in Limnaea.

27 Explain Chromosomal mechanism of Sex determination in animals.

28 Explain Co-dominance with an example.

(5 × 2 = 10 weighta

IV. Essay questions (Answer any *two* questions) :

29 What is Polygenic inheritance ? Explain the inheritance of Skin colour in man.

30 Explain various stages of Meiosis.

31 Expalin various types of Chromosomal mutations.

(2 × 4 = 8 weighta