Rekha V.V.I. Questions for 2022 Examination

Answers of below mentioned questions are present in your Rekha Examination Guide Part–II Zoology – III (Hons.)

Group – A
CELL BIOLOGY

Group – B
GENETICS

ZOOLOGY – 3 (Hons.) (2021)

Answer five questions, selecting at least two from each Group.

Group-A

1. Describe the active transport mechanism of transport of substances across cell - membrane. 11
2. Give an account of ultrastructure of chromosomes with reference to nucleosomes remodeling. 23
3. What are Cytoskeletons ? Describe the process of formation of active filaments. Add a note on their functions. 19
4. Describe the ultrastructure and functions of Golgi body.

Group-B

5. What is linkage ? Describe the phenomenon of complete and incomplete linkage with suitable examples. 47
6. What is Sex-linked inheritance? Explain the phenomenon of Sex-linked inheritance in man giving examples. 65
7. What is multiple allelomorphism ? Describe the phenomenon of multiple allelism with suitable examples. 58
8. Describe the mechanism of substitution type of gene mutation with examples. 76

ZOOLOGY – 3 (Hons.) (2020)

Answer five questions, selecting at least two from each Group.

Group - A

1. Give an account of the molecular organization of Plasma memrane. 8
2. Describe the ultrastructure of mitochondria. 16
3. Explain the structure and functions of 70S ribosomes. 22
4. Describe the structure and functions of micro-filaments. 33
   OR, What are microtubules ? Explain the mechanism of their formation. 31

Group-B

5. Discuss the modifications in Mendelian dihybrid ratio 9:3:3:1 due to the different kinds of interaction of genes. 57
   OR, Describe, in detail, the procedure employed in chromosome mapping. 55
6. Describe the mechanism of sex-determination in Drosophila. 64
7. Give an account of aberrations in chromosome structure and their genetic consequences. 72
8. Write an essay on non-chromosomal inheritance. 68

ZOOLOGY - 3 (Hons.) (2019)

Answer five questions, selecting at least two from each Group.

Group - A

1. Describe the ultrastructure and functions of Golgi body. 19
2. Give an account of the ultrastructure of chromosome. 25
3. What are stem cells ? What are its different classes ? Add a note on its importance.
4. Define senescence. Explain-the mechanism of senescence. 43

Group-B

5. Describe the 'inheritance of sex-linked characters in man. 65
6. What is linkage ? Explain the mechanism of complete and incomplete linkage. 47
7. What do you mean by multiple alleles? Describe the phenomenon of multiple allelism with suitable examples. 58
8. Give an account of gene mutation. 76

ZOOLOGY - 3 (Hons.) (2018)

Answer five questions, selecting at least two from each Group.

Group-A

1. Describe the different models explaining the molecular organization of plasma membrane. 8
2. Describe the ultrastructure of mitochondria and their functions. 16
   Or, Give an account of the structure of 70s ribosomes and their role in protein synthesis. 22 33
3. Discuss the molecular events of Prophase I of meiotic cell-division. 31
4. Describe the structure of actin filaments and elaborate their major roles. 57

Group-B

5. Discuss the modifications in dihybrid ratio 9 : 3 : 3 : 1 due to different kinds of interaction of genes. 55
6. Explain the mechanism of sex-determination in Drosophila. 64
7. Discuss, in detail, the procedure of chromosome mapping. 72
8. Write an essay on non-chromosomal inheritance. 68

Rekha V.V.I. Questions for 2022 Examination

Answers of below mentioned questions are present in your Rekha Examination Guide Part–II Zoology – IV (Hons.)

Group – A

REPRODUCTIVE BIOLOGY

Group – B
BIOMETRY

Length of fish (cm)	5	7	9	10	12
Frequency (f)	10	15	8	7	10

ZOOLOGY – 4 (Hons.) (2021)

Group-A

1. Describe the structure and functions of mammalian ovary. 7
2. Give an account of the structure of mammary gland. Add a note on hormonal control of lactation. 28
3. What do you mean by reproductive cycle? Explain the process of reproductive cycle in any vertebrate studied by you. 13
4. Write short notes on any three of the following : 42
   (a) Amino centesis
   (b) Estrous cycle
   (c) Menopause
   (d) Placenta
   (e) Spermatogenesis

Group-B

5. What is standard deviation? Explain standard deviation with suitable examples. 59
6. Define Student's "t" test. Describe the Student's "t" test with reference to variables giving suitable examples. 75
7. Give an account of regression, citing its application in data analysis. 77
8. Write notes on any three of the following: 84
   (a) Standard error
   (b) Mode
   (c) Variance
   (d) Definition and applications of biostatistics
   (e) Chi-square test

ZOOLOGY – 4 (Hons.) (2020)

Answer five questions, selecting at least two from each Group.

Group - A

1. Describe the structure and functions of mammalian testes. 30
2. What is parturition ? Describe the stages of parturition in any mammal studied by you and explain its hormonal regulation. 23
3. What do you mean by in Vitro fertilization? Describe the process of in vitro fertilization. 37
4. Write short notes on any three of the following:
   (a) Corpus luteum–44, (b) Embryo transfer–47 (c) Biochemistry of Semen–43, (d) Twins (e) Hormonal control of Lactation–42

Group - B

5. Define Chi-square test and describe Chi-square test for goodness of fit with the help of suitable examples. 72
6. What is binomial distribution? What are its properties and assumptions? Determine the probability of occurence of any event in binomial expansion with the help of suitable examples. 70
7. Describe the Karl Pearsonian coefficient of correlation by taking suitable example. 79
8. Write notes on any three of the following:
   (a) Standard Deviation–86 (b) Geometric Mean–85 (c) Students't'-test–88, (d) Median in discrete series–85, (e) Merits and Demerits of Arithmetic Mean–85
   OR, Explain Analysis of Variance (ANOVA) for two-way classification data. 65

ZOOLOGY - 4 (Hons.) (2019)

Answer five questions, selecting at least two from each Group.

Group-A

1. Describe the structure and functions of mammalian ovary. 7
2. Explain the structure of mammary gland. 28
3. Give an account of female reproductive cycle in a freshwater fish studied by you. 18
   Or, Describe the male reproductive cycle of birds. 17
4. Give an account of menstrual cycle and its hormonal regulation. 20

Group - B

5. Define mode. Compute mode in continuous series by taking suitable example. Explain the merits and demerits of mode. 57
6. Describe normal probability distribution and its properties. 69
7. What is regression and regression coefficient? Compute regression coefficient of Y on X by taking suitable data or example. 81
8 What do you mean by analysis of variance? Explain analysis of variance for one-way classification data. 63

ZOOLOGY - 4 (Hons.) (2018)

Answer five questions, selecting at least two from each Group.

Group-A

1. What is parturition ? Describe the process of regulation of parturition. 23
2. Describe the structure and function of a mammalian testis. 30
3. Give an account of vitro fertilization and embryo transfer. 37
4. Write short notes on any two of the following :
   (a) Biochemistry of semen–43, (b) Aminocentosis–47
   (c) Twins–44, (d) Hormonal control of lactation–42

Group-B

5. How will you calculate arithmetic mean for individual data, discrete series and continuous series ? 54
6. What do you mean by correlation and coefficient of correlation ? Describe different methods of studying correlation. 79
7. Explain Chi-square test with examples. 72
8. What is standard error ? How is standard error of mean calculated ? Explain with examples. 61

ZOOLOGY - 4 (Hons.) (2017)

Answer five questions, selecting at least two from each Group.

Group-A

1. Give an account of histo-physiology of mammalian ovary. 7
2. Describe the structure of mammary gland and add a note on the hormona control of lactation. 28
3. Describe the reproductive cycle of any vertebrate studied by you. 13
4. Write short notes on any three of the following :
   (a) Testosterone–45 (b) Progesterone–46 (c) Types of mammalian oocytes–47 (d) Negative feed back mechanism of hormonal control–46 (e) Role of gonadotropins in fish reproductive cycle–48.

Group-B

5. Describe analysis of variance in two way classification (Two-factor analysis). 65
6. Define mode. Calculate the modal length of fishes from the following data : 56

Length of fish (cm)	5	7	9	10	12
Frequency (f)	10	15	8	7	10

7. What do you mean by 't'-test of significance. Describe 't'-test for paired samples with suitable examples. 75
8. Describe normal probability distribution. What are its properties. Explain normal distribution curves ? 69
   Or, What is regression ? Describe the regression equation of X on Y only by taking suitable example. 83

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