

[KY 026]

MAY 2011

Sub. Code: 9126

M.Sc. MOLECULAR VIROLOGY DEGREE EXAMINATION

FIRST YEAR

(For candidates admitted from 2009-2010 onwards)

PAPER II – EPIDEMIOLOGY, BIOSTATISTIC AND ENTOMOLOGY

Q.P. Code: 289126

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 20 = 40)

1. Describe the types of epidemiological methods in detail. Write the advantage and disadvantage of each study design.
2. What is meant by sampling? Describe the various methods of sampling in detail.

II. Write notes on:

(10 x 6 = 60)

1. Population attributable risk.
2. Types of variables.
3. Interim Analysis.
4. Describe various multiple range test used in statistical analysis.
5. Relationship between odds ratio and relative risk.
6. Receiver Operating Characteristics (ROC curve) curve.
7. Methods of Randomization.
8. Distinguish Anopheline Culicine mosquitoes.
9. Method of collecting ectoparasites from mammals.
10. Write a note on allergic and toxic reactions to insect venome.

M.Sc. MOLECULAR VIROLOGY DEGREE EXAMINATION**FIRST YEAR****(For candidates admitted from 2009-2010 onwards)****PAPER II – EPIDEMIOLOGY, BIOSTATISTIC AND ENTOMOLOGY****Q.P. Code: 289126****Time : Three Hours****Maximum : 100 marks****Answer ALL questions in the same order.****I. Elaborate on:****Pages Time Marks
(Max.) (Max.) (Max.)**

- | | | | |
|--|----|---------|----|
| 1. Discuss in detail how the data can be represented in different ways. | 17 | 40 min. | 20 |
| 2. Classification of Mosquito. Describe the life cycle of mosquito and its role in the transmission of Dengue, Malaria and Chikunguniya. | 17 | 40 min. | 20 |

II. Write notes on :

- | | | | |
|---|---|---------|---|
| 1. What is meant by power of the test and level of significance? | 4 | 10 min. | 6 |
| 2. Types of descriptive studies. | 4 | 10 min. | 6 |
| 3. Define the term range, standard deviation and normal distribution. | 4 | 10 min. | 6 |
| 4. Strength and weakness of cluster sampling. | 4 | 10 min. | 6 |
| 5. Merits and demerits of case control study. | 4 | 10 min. | 6 |
| 6. Discuss various steps involved in testing of hypothesis. | 4 | 10 min. | 6 |
| 7. Define Random error and bias. | 4 | 10 min. | 6 |
| 8. Larval biology of mosquito. | 4 | 10 min. | 6 |
| 9. Role of mosquitoes in transmission of dengue and malaria. | 4 | 10 min. | 6 |
| 10. Prevention and control of Arthropod borne diseases. | 4 | 10 min. | 6 |

M.Sc. MOLECULAR VIROLOGY DEGREE EXAMINATION**FIRST YEAR****(For candidates admitted from 2009-2010 onwards)****PAPER II – EPIDEMIOLOGY, BIOSTATISTIC AND ENTOMOLOGY****Q.P. Code: 289126****Time : Three Hours****Maximum : 100 marks****Answer ALL questions in the same order.****I. Elaborate on:**

Pages (Max.)	Time (Max.)	Marks (Max.)
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- | | | | |
|---|----|---------|----|
| 1. Describe the collection, preservation, mounting and transportation of Arthropods? | 17 | 40 min. | 20 |
| 2. What are the different types of Epidemiological studies?
Explain in detail the steps in Descriptive studies with suitable examples? | 17 | 40 min. | 20 |

II. Write notes on :

- | | | | |
|---|---|---------|---|
| 1. Co-efficient of variation and its significance. | 4 | 10 min. | 6 |
| 2. Advantages and disadvantages of case control studies. | 4 | 10 min. | 6 |
| 3. Differences between Anopheles and Culex mosquito. | 4 | 10 min. | 6 |
| 4. Prevention and control of Japanese Encephalitis. | 4 | 10 min. | 6 |
| 5. Application and uses of percentiles. | 4 | 10 min. | 6 |
| 6. Types of data and its significance. | 4 | 10 min. | 6 |
| 7. Probability sampling methods. | 4 | 10 min. | 6 |
| 8. Bias in epidemiological studies. | 4 | 10 min. | 6 |
| 9. Proportional mortality rate and its significance. | 4 | 10 min. | 6 |
| 10. Public health importance of ticks and its control measures. | 4 | 10 min. | 6 |

[LD 1013]

OCTOBER 2013

Sub. Code: 9126

M.Sc. MOLECULAR VIROLOGY DEGREE EXAMINATION

FIRST YEAR

(For candidates admitted from 2009-2010 onwards)

PAPER II – EPIDEMIOLOGY, BIOSTATISTIC AND ENTOMOLOGY

Q.P. Code: 289126

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 20 = 40)

1. Medical importance of mites and fleas.
2. Epidemiological study designs; Their objectives, key features and relative advantages and disadvantages.

II. Write notes on:

(10 x 6 = 60)

1. Non-parametric tests.
2. Sampling methods.
3. Measures of association.
4. Steps of test of significance.
5. Types of probability sampling.
6. Incidence and prevalence with examples.
7. Outbreak investigation.
8. Bio-ecology of KFD.
9. Blood feeding and gonotrophic cycle with diagram.
10. New World and Old World sand flies and their importance.

[LF 1014]

OCTOBER 2014

Sub. Code: 9126

M.Sc. MOLECULAR VIROLOGY DEGREE EXAMINATION

FIRST YEAR

(For candidates admitted from 2009-2010 onwards)

PAPER II – EPIDEMIOLOGY, BIOSTATISTIC AND ENTOMOLOGY

Q.P. Code: 289126

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 20 = 40)

1. Describe classification of mosquito. Explain life cycle of mosquitoes and their role in transmission of Dengue, Chikungunya and Japanese encephalitis.
2. What is meant by sampling? Describe various sampling methods.

II. Write notes on:

(10 x 6 = 60)

1. Types of variables.
2. Distinguish between Anopheline and Culicine mosquitoes.
3. Interim analysis.
4. Methods of randomization.
5. Analytical study designs.
6. Population at risk; Population attributable risk.
7. Short note on allergic and toxic reactions to insect venom.
8. Methods of collecting ectoparasites from mammals.
9. Random errors and systematic errors.
10. What is meant by test and level of significance?

[LH 0415]

OCTOBER 2015

Sub. Code: 9126

M.Sc., MOLECULAR VIROLOGY
(for Candidates admitted from 2009-2010 Batch onwards)
FIRST YEAR
PAPER II – EPIDEMIOLOGY, BIOSTATISTICS AND ENTOMOLOGY

Q.P. Code : 289126

Time : Three hours

Maximum : 100 marks

I. Elaborate on :

(2 x 20 = 40)

1. Describe collection, preservation, mounting and transportation of Arthropods.
2. What is meant by sampling? Describe various sampling methods.

II. Write notes on :

(10 x 6 = 60)

1. Bio-ecology of KFD.
2. Measures of central tendency.
3. Blood feeding and gonotrophic cycle with diagram.
4. Odds ratio and relative risk.
5. Steps in testing a hypothesis.
6. Normal distribution.
7. Confidence intervals and p values.
8. Incidence and prevalence with examples.
9. Steps in outbreak investigation.
10. New world and old world sand flies and their importance.

[LJ 1016]

OCTOBER 2016

Sub. Code: 9126

**M.Sc. MOLECULAR VIROLOGY EXAMS
FIRST YEAR
PAPER II – EPIDEMIOLOGY, BIostatISTICS AND ENTOMOLOGY**

Q.P. Code : 289126

Time: Three hours

Maximum : 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. What are the vectors for *Yersinia pestis*? With the help of a diagram, describe the life cycle of the vector and their role in the transmission of *Yersinia pestis*.
2. What is Randomisation and elaborate on various types of randomization with appropriate examples?

II. Write notes on: **(10 x 6 = 60)**

1. List the types of transmission seen in vector borne diseases, and add a brief note on each of them.
2. Epidemiology of Zika Virus.
3. Type of transmission in Malaria, list the vectors with the species of malaria they transmit and their breeding places.
4. Brief note on natural history of Filariasis.
5. Epidemiology of Kyasanur Forest disease and reason for its spread.
6. Measures of central tendency and a brief note on each.
7. List the types of sampling methods, and a brief note on each.
8. What is Blinding? List the types of blinding with brief note on each.
9. Briefly describe distribution curves with appropriate examples.
10. What is Odds Ratio? Explain briefly its application.

[LL 1017]

OCTOBER 2017

Sub. Code: 9126

**M.Sc. MOLECULAR VIROLOGY EXAMS
FIRST YEAR
PAPER II – EPIDEMIOLOGY, BIostatISTICS AND ENTOMOLOGY**

Q.P. Code : 289126

Time: Three hours

Maximum : 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Classification of Mosquito. Describe the life cycle of mosquito and its role in the transmission of Dengue, Malaria and Chikungunya.
2. Describe the various methods of sampling in detail.

II. Write notes on: **(10 x 6 = 60)**

1. Descriptive studies.
2. Scales of measurement.
3. Random error and Bias.
4. Incidence and prevalence with examples.
5. Measures of central tendency.
6. Power and Level of significance of the test.
7. Methods of collecting ectoparasites from mammals.
8. Public health importance of ticks and its control measures.
9. Prevention and control of Japanese Encephalitis.
10. Non-parametric tests.

[LN 1018]

OCTOBER 2018

Sub. Code: 9126

**M.Sc. MOLECULAR VIROLOGY EXAMS
FIRST YEAR
PAPER II – EPIDEMIOLOGY, BIOSTATISTICS AND ENTOMOLOGY**

Q.P. Code : 289126

Time: Three hours

Maximum : 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Elaborate on methods of collecting these insects and arthropods, their preservation, maintenance and transportation.
2. Explain experimental study designs with examples. Explain the advantages and disadvantages of randomization and blinding.

II. Write notes on: **(10 x 6 = 60)**

1. Case-control study.
2. Alpha and Beta errors.
3. Public health importance of ticks.
4. Selection bias, information bias and confounding.
5. Non-parametric tests.
6. Descriptive studies.
7. Types of data.
8. Types of transmission of vector borne diseases.
9. Population attributable risk.
10. Prevention and control of Japanese encephalitis.

[LP 1019]

OCTOBER 2019

Sub. Code: 9126

**M.Sc. MOLECULAR VIROLOGY EXAMS
FIRST YEAR
PAPER II – EPIDEMIOLOGY, BIostatISTICS AND ENTOMOLOGY**

Q.P. Code : 289126

Time: Three hours

Maximum : 100 Marks

I. Elaborate on: **(2 x 20 = 40)**

1. Explain biology, ecology, life history of ticks with special reference to Kyasanur Forest Disease (KFD).
2. Explain observational study designs with illustrative examples and merits and demerits.

II. Write notes on: **(10 x 6 = 60)**

1. Randomization.
2. Types of sampling methods.
3. Sandflies.
4. Bias in epidemiological studies.
5. Types of data with examples.
6. Transmission of malaria.
7. Measures of association.
8. Non-parametric tests.
9. Methods of collecting ectoparasites from mammals.
10. Measures of central tendency.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 9126

(OCTOBER 2020 EXAM SESSION)

M.Sc. MOLECULAR VIROLOGY

FIRST YEAR (From 2009-2010 onwards)

PAPER II – EPIDEMIOLOGY, BIostatISTICS AND ENTOMOLOGY

Q.P. Code : 289126

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Medical importance of mites and fleas.
2. Explain characteristic features of observational and experimental study designs with examples.

II. Write Short Notes on:

(10x6 = 60)

1. Randomization.
2. Distinguish between *Anopheline* and *culicine* mosquitoes.
3. Bio-ecology of KFD.
4. Systematic error.
5. Types of data with examples.
6. Natural history of disease.
7. Measures of association.
8. Non-parametric tests.
9. Role of laboratory in outbreak investigation of vector-borne diseases.
10. Measures of central tendency.
