2012 - 13

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

Master of Philosophy (M.Phil)

Molecular Cell Biology and Medical Genetics

(Semester - III)

May-2014 Examination

Time: 3 Hrs. Max. Marks: 100]

Paper – I

Research Methodology & Biostatistics

Q.P Code: 6113

Your answers should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

Section – A Research Methodology (50 Marks)

(Use Separate Answer booklet for Section "A" and Section "B")

(Each Question 5 marks) **5 X 10 = 50 Marks**

1. Write a short note on Pilot Study
2. Write notes on Nurember code and Belmont Principles
   Discuss SMART in detail
3. Write short notes on SMART and PICO model
4. Write short notes on journals and impact factor
5. List out major electronic literature seach engines and explain in detail on PubMed
6. Write short notes on Plagiarism and Copyrights
7. Comment on GLP and GCP
8. Write short notes on systematic review
9. Discuss on IMARD
10. Discuss in brief on ethical issues in research

Section – B Biostatistics (50 Marks)

(Use separate Answer booklet for Section-B)

(Each Question 5 marks) **5 X 10 = 50 Marks**

1. List out different types of sampling with suitable examples
2. Describe and differentiate Correlation and regression
3. Discuss in detail on Parametric tests and Non Parametric tests
4. Define different types of ANOVA with special emphasis on one-way ANOVA
5. Write short notes on estimating sample size for a research study
6. Describe the uses of statistical packages with a special mention to SPSS
7. Explain the importance of Biostatistics in research
8. Summarize your knowledge on any three of the following
   a. Cumulative Frequency Curve
   b. Correlation
   c. Random Sampling
   d. Type I and Type II errors
9. Answer any three of the following
   a. P-Value
   b. Null Hypothesis
   c. Histogram
   d. Normal distribution
10. Write a note on presentation of Data. Describe various methods of presenting data collected by investigators.

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Register Number : 12MPhil01

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Paper – II (Specialization)

Q.P Code : 6123

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

(Each Question 10 marks) **10 X 10 = 100 Marks**

1. Define and classify preeclampsia. Add a note on the causes of preeclampsia.
2. Describe the pathophysiology of preeclampsia.
3. Discuss about the risk factors of preeclampsia.
4. Explain about single nucleotide polymorphism with examples.
5. Discuss about the pathway of blood coagulation.
6. Discuss the principle and applications of western blotting.
7. Write about microarray technique and its application.
8. Explain the principle of electrophoresis. Add a note on capillary electrophoresis.
9. Describe the components of a colorimeter and explain the working principle.
10. Describe the process of ultracentrifugation and its applications.

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Register Number : 12MPhil02

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Time: 3 Hrs. Max. Marks: 100]

Paper – II (Specialization)

Q.P Code : 6123

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

(Each Question 10 marks) **10 X 10 = 100 Marks**

1. Describe the hormonal involvement of ovulation: give a diagrammatic representation of follicle maturation.
2. What is HAIRAN syndrome? How it is associated with PCOS.
3. Describe the laboratory findings related to PCOS: What ate the long term risks associated with PCOS?
4. Describe the genes and their functions associated with PCOS.
5. Write an essay on the biological functions of insulin with special reference to PCOS.
6. Describe the disease associated with insulin resistance..
7. Describe the role of insulin in hepatic tissues.
8. Define genetic polymorphism and describe their inheritance pattern with special reference to PCOS.
9. Define SNPS and their importance in PCOS.
10. How SNPS data could be useful in the diagnosis and management of PCOS.

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