

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI –600 086**  
(For candidates admitted from the academic year 2006 – 07 & thereafter)  
**SUBJECT CODE: BI/PC/RM42**  
**M. Sc. DEGREE EXAMINATION, APRIL 2009**  
**BIOINFORMATICS**  
**FOURTH SEMESTER**

**COURSE : MAJOR – CORE** **TIME : 1 hrs. 30 min.**  
**PAPER : RESEARCH METHODOLOGY** **Marks : 50**  
**Register number** \_\_\_\_\_

**SECTION – A** **15 marks**

**Note**

- Select the most correct answer from among the choices
- Write the chosen answer's letter of alphabet in the box provided on the question paper

1. Research is an art aided by systematic skills of inquiry which are
  - a. designing an appropriate testing process
  - b. collection of data that would only prove the data to be tested
  - c. right ways of measurement and analysis and insightful interpretation.
  1. Statement 1 is true
  2. Statement 2 is true
  3. Statement 1 & 3 are true
  4. Statement 2 & 3 are true
2. Causes are explored and effects understood; to understand causes, effect are studied and evaluated. This forms part of
  1. descriptive research
  2. exploratory research and explanatory research
  3. evaluative research
  4. explanatory research
3. Some of the important steps in formulating research question are
  - a. Explore first and define what type of a question will potentially lead you to the 'right' answer.
  - b. For working comfort, break that question into several minor questions.
  - c. Convert the problem (issue) to be investigated into a question.
  - d. Describe it in simple narrative.
  1. a,b,c,d.
  2. d,b,c,a.
  3. c,a,d,b
  4. b,c,a,d

4. Research is a continuously evolving process driven by
- investigation -----> imagination---→ comparison---→ deduction
  - deduction-----→ imagination--→ investigation ---→ comparison
  - imagination--→investigation--→comparison--→ deduction
  - deduction--→comparison --→imagination--→ investigation.
- 
5. Steps involved in testing a hypothesis
- Problem--→ hypothesis--→ questions--→ statistical test--→ datacollection → inference
  - Question→ Problem--→ datacollection →statistical test--→ inference--→ hypothesis
  - Problem--→questions--→hypothesis--→datacollection→ statistical test→ inference
  - hypothesis--→ questions--→ Problem--→ datacollection→ statistical test--→ inference
- 
6. A paper in research can
- add conceptually to current body of knowledge \_\_\_\_\_
  - add empirically to current body of knowledge \_\_\_\_\_
  - it will \_\_\_\_\_ in current body of knowledge.
  - it will demonstrate \_\_\_\_\_ the available body of knowledge.
- 
7. Synthesis is referred to as
- coherence
  - explanation
  - statistical inference
  - coming together
- 
8. Inreporting results of a study, Secondary evidence supporting or rejecting supposition  
Is
- |                |                |
|----------------|----------------|
| a. exploratory | b. descriptive |
| c. predictive  | d. inferential |
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**SECTION – B** **(4x5=20 marks)**

**Answer any four of the following questions in about 100 words ( 1 page)**

1. List the common elements in research. Explain the role of theory in research.
2. Creativity, process and progress are an integral part of the research process. Comment.
3. Elucidate the role of a conceptual and prepositional analysis in the research framework.
4. Outline the key points in preparing a research proposal.
5. Differentiate between qualitative and quantitative research.
6. Does ethics have a role in research? Justify your answer.

**SECTION – C** **(1x15=15 marks)**

**Answer any one question not exceeding 3 –4 pages (600-800 words)**

7.
  - a. What is the role of philosophical foundations in research?
  - b. Elaborate on the five philosophical foundations underlying the research process.
8. Discuss the main points involved in writing a thesis or dissertation.

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