Reg. No. :

Code No.: 6396 Sub. Code: PCSM 34

M.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Computer Science — Core

RESEARCH METHODOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — $(10 \times 1 = 10 \text{ marks})$

Answer ALL questions.

Choose the correct answers :

- 1. Research is
 - (a) Searching again and again
 - (b) Finding solution to any problem
 - (c) Working in a scientific way to search for truth of any problem
 - (d) Collecting data and analyze

(6 Pages)

- 2. The research carried over several time periods is
 - (a) Conceptual research
 - (b) Empirical research
 - (c) Longitudinal research
 - (d) Historical research
- 3. In the process of conducting research "Formulation of hypothesis" is followed by
 - (a) Selection of research tools
 - (b) Statement of objectives
 - (c) Analysis of data
 - (d) Collection of data
- 4. The maintext of the report consists of
 - (a) Abstract, findings, summary, conclusion
 - (b) Introduction, methodology, main report, conclusion
 - (c) Introduction, findings, summary, conclusion
 - (d) Introduction, findings, main report, conclusion
- 5. Interview is a
 - (a) Research method
 - (b) Measurement technique
 - (c) Tool for data collection
 - (d) Data analysis technique

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- 6. Which one is a formal experimental design?
 - (a) Control design (b) Randomized design
 - (c) Functional design (d) Factorial design
- 7. Analysis of variance is a statistical method of comparing the ——— of several populations.
 - (a) Standard deviations
 - (b) Variances
 - (c) Means
 - (d) Proportions
- 8. ——— is the data, which have already been collected and analysed by someone else.
 - (a) Primary data (b) Secondary data
 - (c) Information (d) Treatment
- 9. ——— refers to the task of drawing inferences from the collected facts after an analytical study.
 - (a) Interpretation (b) Classification
 - (c) Tabulation (d) Adjusting data
- 10. Which one is used to emphasize relative proportion or share of each category?
 - (a) bar chart (b) multiple bars
 - (c) line chart (d) pie chart

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PART B — $(5 \times 5 = 25 \text{ marks})$

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 250 words.

11. (a) What is research? Write the objectives of research.

 \mathbf{Or}

- (b) Write down the criteria of good research.
- 12. (a) Explain the concept behind probability sampling.

Or

- (b) Write the basic principles of experimental designs.
- 13. (a) Explain the possible sources of error in measurements.

Or

- (b) What are secondary data? State their characteristics.
- 14. (a) Explain the various types of analysis.

 \mathbf{Or}

(b) Write the steps for one observation per cell in two way ANOVA.

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[P.T.O]

15. (a) What are the steps in development of algorithm?

 \mathbf{Or}

(b) List the steps involved in writing report.

PART C — $(5 \times 8 = 40 \text{ marks})$

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Describe the techniques involved defining a problem.

\mathbf{Or}

- (b) Give an account on research process.
- 17. (a) Give an account on various research designs.

Or

- (b) What is a sample design? Explain the main steps of sample design.
- 18. (a) Explain the desirable qualities to judge the goodness of measurement scales.

 \mathbf{Or}

(b) Discuss how data collection is performed with questionnaire.

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19. (a) Discuss data preparation process in detail.

 \mathbf{Or}

- (b) Explain the steps involved in one-way ANOVA.
- 20. (a) Explain the types of reports.

 \mathbf{Or}

(b) Describe the layout of research report in detail.

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