1205E519   Candidate's Seat No : _____

M.Phil (Physics) Examination
Paper-I : Research Methodology

Time : 3 Hours]   May-2017   [Max. Marks : 70

Instructions:
(1) Attempt All Questions.
(2) All questions carry equal marks.
(3) Symbols and terminology have their usual meanings.
(4) Scientific calculator may be permitted.

Q1 (a) Give a description of various points to be considered while writing a research paper to be submitted to a journal for its due consideration for publication. [7]

OR

(a) Write a detailed note on various styles used for quoting references in thesis writing. [7]

Q1(b) What are the important factors to be considered while preparing a power point presentation for 10 minutes oral presentation of your research work? [7]

OR

(b) Prepare a detailed layout for major research project. [7]

Q2(a) Discuss the importance of formulating Research Problem. Also give sources of research problems. [7]

OR

Q2(a) What is hypothesis? What are characteristics a hypothesis must possess in order to be a good hypothesis? [7]

Q2(b) What is the meaning of research? What are the objective and motivation in research? What are the types of research? Explain. [7]

OR

Q2(b) A researcher needs to follow different procedure steps to test hypothesis. [7] Describe in brief all the steps.

Q3 (a) Discuss why citation is important in research articles? Distinguish between citation and referencing. What are the advantages of citation index? Discuss major citation indexing services. [7]

OR

(a) What is meant by impact factor? How is it calculated?
Describe various criticisms related impact factor.
Discuss different editorial policies that affect impact factor. [7]

Q3(b) Write detailed notes on (i) Research Gate and (ii) Google scholar. [7]

OR

(b) Describe various services provided by internet.

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Discuss role of internet in health services. [7]

Q4(a) Discuss the precautions to be taken for the safety against toxic chemicals in laboratory. [7]

OR

(a) List the general causes of fire in the laboratory. What are the different type of fire extinguishers commonly used. Discuss any one in detail. [7]

Q4(b) Define regression and state its significance. Where is it used? Explain with example. [7]

OR

(b) What is meant by curve fitting? Discuss the method of least square fitting. [7]

Q5 Short Questions: [14]

(i) What is meant by accuracy?

(ii) Define standard deviation.

(iii) List the SI base units.

(iv) What is doi?

(v) Distinguish between IPv4 and IPv6

(vi) Write URL of Gujarat University

(vii) Name two Physics journals published from India.

(viii) INSA is abbreviation of ------------.

(ix) CSIR is abbreviation of -----------.

(x) List two difficulties faced by researchers in India?

(xi) Name the methods used to test hypothesis.

(xii) Define alternate hypothesis.

(xiii) What is meant by precision?

(xiv) Name two Physics journals published from USA.

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