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# MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

## I SEMESTER M.TECH. (COMMON TO ALL)

### END SEMESTER EXAMINATIONS, FEBRUARY 2022

SUBJECT: **Research Methodology and Technical Communication**  
[HUM 5151]

REVISED CREDIT SYSTEM  
(16/02/2022)

MAX. MARKS: 50

#### Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.

#### PART A (MCQs)

(Time: 45 + 3 minutes)

- 1) Analytical research is the type of research that: (1)
  - a) Discovers ways of finding solution to an immediate problem
  - b) Gathers knowledge skill
  - c) Is useful for formulating hypothesis or testing hypothesis
  - d) Analyze the facts or information already available
- 2) Observation of the dynamic behaviour of a system (or its sub-system) under controlled conditions is called as (1)
  - a) Simulation approach
  - b) Experimental approach
  - c) Inferential approach
  - d) None of the options
- 3) Which of the following is NOT a type of Experimental research method? (1)
  - a) True Experiment
  - b) Quasi-Experiment
  - c) Meta-Analysis
  - d) Ethnography
- 4) Transmission involves choosing the \_\_\_\_\_ for flow of the message. (1)
  - a) Proper time and place
  - b) Proper channel
  - c) Proper way
  - d) All the options

- 5) Which of the following is a Verbal communication? (1)  
A) Facial expression  
B) Posture  
a) Only A  
b) Only B  
c) Both A and B  
d) Neither A nor B
- 6) Which of the following is to be avoided for a Good technical presentation? (1)  
a) Complimentary colors  
b) Formal and Methodical  
c) Moderate contrast  
d) None of the options
- 7) The conceptual framework for the research project: (1)  
a) Contains all of the key concepts of the research project.  
b) Contains the theoretical framework for the research project.  
c) Contains the aim and objectives of the research.  
d) Contains a description of the context for the research.
- 8) A primary data collection method that involves tracking behaviour over a period of time is called: (1)  
a) browsing.  
b) observation.  
c) sampling.  
d) testing.
- 9) Anything that becomes a means of collecting information for your study is called as a (1)  
\_\_\_\_\_.  
a) Research tool  
b) Research strategy  
c) Research idea  
d) None of the options
- 10) Which of the following aspect of attitudes can be measured in qualitative research? (1)  
a) Spread of attitudes  
b) Intensity of attitudes  
c) Quantity of a particular attitude  
d) None of the other answers are correct
- 11) Which of the following is a type of self-reporting technique? (1)  
a) Field analysis  
b) Questionnaire  
c) Case study  
d) Focus groups

- 12) The techniques by which we can study an individual's personality by observing his/her styles of life, behaviour, manner, thoughts, and feelings is called \_\_\_\_\_. (1)
- a) Inventory
  - b) Case history
  - c) Rating scale
  - d) Projective
- 13) What is a characteristic of a hypothesis? (1)
- A) It is a tentative statement
  - B) Its validity is unknown
  - C) In most cases, it specifies a relationship between two or more variables
- a) Only A and B are true
  - b) Only B and C are true
  - c) All statements are true
  - d) None of the statements are true
- 14) State whether the following statements are true/ false. (1)
- A) To find out respondents' attitudes to an issue a researcher can use an open-ended or closed question.
  - B) Attitudinal scales can be used to explore 'Agreement'.
- a) True, True
  - b) False, False
  - c) True, False
  - d) False, True
- 15) Error of central tendency is a common error in case of data collected using \_\_\_\_\_. (1)
- a) Likert Scale
  - b) Projective techniques
  - c) Case study method
  - d) Narrative recording
- 16) Identify the unethical practice of a researcher from the following: (1)
- a) Avoiding plagiarism
  - b) Avoiding duplication
  - c) Avoiding reliable information
  - d) Avoiding manipulation
- 17) In survey conducted using questionnaire, the reliability is measured statistically using \_\_\_\_\_. (1)
- a) KMO and Bartlett's test
  - b) Cronbach's alpha
  - c) Mean and Variance
  - d) Mean and Normal distribution

- 18) Which of these is NOT an example of plagiarism? (1)
- a) Explaining another author's concept with your own words without citing.
  - b) Using the author's exact words into your work but enclose the work with inverted commas and provide a reference.
  - c) Slightly adapting a figure from the internet and claim it as your own.
  - d) Copying a sentence but change two words and provide a reference.
- 19) State whether following statements are true or false: (1)
- A) Any type of hypothesis can become the basis on an enquiry.
  - B) A total of 60 per cent of females and 30 per cent of males in the study population are smokers. This is an example for hypothesis of difference.
  - C) There is no significant difference in the proportion of male and female smokers in the study population. This is an example for 'Null hypothesis'
- a) True, False, True
  - b) False, False, True
  - c) True, True, False
  - d) False, True, False
- 20) An operational definition is: (1)
- a) One that bears no relation to the underlying concept
  - b) An abstract, theoretical definition of a concept
  - c) A definition of a concept in terms of specific, empirical measures
  - d) One that refers to opera singers and their work
- 21) Construct validity refers to \_\_\_\_\_. (1)
- a) A logic link between research instrument and objective.
  - b) Statistical procedures establish the contribution of each important factor.
  - c) How well an instrument compares with a second assessment concurrently done.
  - d) The degree to which an instrument can forecast an outcome.
- 22) Which report section is intended to map the findings of the research with previous literature? (1)
- a) Results
  - b) Literature Review
  - c) Discussions
  - d) Implications
- 23) The proposal should start with \_\_\_\_\_. (1)
- a) A time frame of the proposed research.
  - b) Sampling technique.
  - c) The proposed structure of the report.
  - d) An overview of the main area under study

- 24)** Final stage in the Research Process is **(1)**
- a) Problem formulation
  - b) Data collection
  - c) Data Analysis
  - d) Report Writing
- 25)** A Research Report is a formal statement of \_\_\_\_\_. **(1)**
- a) Research Process
  - b) Research Problem
  - c) Data collection
  - d) Findings of Research
- 26)** Before starting to write a report it is advisable to develop \_\_\_\_\_. **(1)**
- a) An outline.
  - b) A theme.
  - c) A model.
  - d) A chapter
- 27)** The Harvard referencing system is also known as \_\_\_\_\_. **(1)**
- a) The author-date system.
  - b) The author-number system.
  - c) The short-title system.
  - d) The reference by number system
- 28)** In thesis format, styles of referencing have been inappropriately followed, this is an example of: **(1)**
- a) Technical lapse on the part of researcher
  - b) Unethical practice of the researcher
  - c) Inability of the researcher to write a thesis
  - d) Lack of commitment on the part of the researcher to write a thesis
- 29)** Which of the following are the basic rules of APA style of referencing format? **(1)**
- A) Italicize titles of shorter works such as journals articles and essays
  - B) Invert authors name (last name first)
  - C) Italicize titles of longer works such as books
  - D) Alphabetically index reference list
- Select the correct answers:
- a) (A) and (B)
  - b) (B), (C), and (D)
  - c) (C) and (D)
  - d) (A), (B), (C), and (D)
- 30)** Action research means: **(1)**
- a) A longitudinal research
  - b) An analytical research
  - c) A research initiated to solve an immediate problem
  - d) A research with socio-economic objective

## **PART B**

(Time: 75 + 10 minutes)

### **Answer All the Questions:**

- Q1A)** Discuss with the help of suitable example all the four key levels of measurement scale in research. **(04)**
- Q1B)** Briefly explain the contents of a technical paper. **(03)**
- Q1C)** Swiggy Ltd. one of the key players in food delivery services requires a researcher to conduct a survey on the payment modes made by their customers in and around Udupi. Through the study they have found that their customer base is 38975 with a gender ratio (Male : Female) of 3:2. Justify the type of sampling technique would you use to get a more realistic answer if the sample size calculated is 300? **(03)**
- Q2)** Select an innovative hypothetical research problem of your choice and answer the following:
- (A)** Identify the problem and write problem statement. **(03)**
  - (B)** Frame the research questions and define the objectives of the research. **(04)**
  - (C)** Develop a conceptual model and frame the hypotheses. **(03)**