

**Post Graduate Diploma in Management (Hospital & Health Management)
PGDM – 2022-24 Batch**

Term – 1st Year 2nd Term End Examination

Course & Code	: RESEARCH METHODOLOGY (CC 613)	Reg. No.	:
Term & Batch	: II, 2022-24	Date	:
Duration	: 3 Hrs	Max. Marks	: 70

Instructions:

- Budget your time as per the marks given for each question and write your answer accordingly.
- Don't write anything on the Question Paper except writing your Registration No.
- Mobile Phones are not allowed even for computations.

Part A: Please answer all questions (10 questions * 1 mark = 10 marks)

1. Which of the following can be used to plan the duration, timeline and sequence of activities of a research project?
 - a. Bar chart
 - b. Histogram
 - c. Gantt chart
 - d. Pie chart
2. Which of the following is the first step in the life cycle of research?
 - a. Study conduct and analysis
 - b. Development of scientific question
 - c. Research communication and translation
 - d. Study planning
3. Thematic analysis is done in which type of study?
 - a. Cohort study
 - b. Randomized controlled trial
 - c. Qualitative study
 - d. All of the above

4. Match the following:

Nominal variable	Pulse rate
Ordinal variable	Height
Continuous variable	Gender
Discrete variable	Stages of lung cancer

- a. 1-a, 2-b, 3-c, 4-d
- b. 1-a, 2-d, 3-a, 4-c
- c. 1-c, 2-d, 3-b, 4-a
- d. 1-d, 2-a, 3-c, 4-b

5. Observational studies are placed highest in the hierarchy of evidence.

- a. True
- b. False

6. Sample size for a cross sectional descriptive research study is calculated based on:

- a. Primary outcome variable
- b. Study design
- c. Both
- d. None

7. Which of the following search strings is likely to yield the maximum number of results on PubMed?

- a. “pneumonia” AND “bacterial”
- b. “pneumonia” OR “bacterial”
- c. “pneumonia” NOT “bacterial”
- d. All will yield same number of results

8. Which of the following sections is NOT included in a research proposal?

- a. Materials and methods
- b. Budget
- c. Results
- d. Research question

9. Cohort study is considered better than case control study for establishing a causal association because:
- It satisfies the condition of temporality (cause before effect)
 - It requires a long period of follow up
 - It makes comparisons between two groups
 - It can be used to study rare conditions
10. Sample size for population proportion is calculated using the formula $Z_{\alpha/2}^2 * p * (1-p) / e^2$. In this formula, 'p' is _____.

Part B: Please attempt ANY FOUR questions (4 questions * 5 marks = 20 marks)

11. Explain the following terms: (2.5+2.5)
- Plagiarism with respect to scientific writing
 - Respect for autonomy with respect to research ethics
12. What is meant by a 'study sample'? Describe one type of probability sampling and one type of non-probability sampling. (1+2+2)
13. Select the appropriate study design for research studies given below and justify your answer. (2.5+2.5)
- You want to plan a study to find out whether living in the vicinity of a cellphone tower puts people at increased risk of brain tumour.
 - As a hospital administrator you see that the hospital staff are not practicing proper biomedical waste management. You want to find out whether introducing training workshops can improve their compliance to the biomedical waste management rules.
14. Which sampling method will you use to conduct the following studies? Justify with reasons. (2.5+2.5)
- You are conducting a research study to find out how the productivity level of employees is associated with office work policy in different organizations (work from home on all days/ work from home on some days/ work from office on all days).
 - You want to conduct a study among intravenous drug users to assess the motive of drug use.
15. What is meant by citation and referencing? What is its importance in a scientific article? (2+3)

Part C: Please attempt ANY FOUR questions (4 questions * 10 marks = 40 marks)

16. What is meant by ethical review, scientific review and regulatory review of a research proposal? What information should be included in participant information sheet and informed consent form? (3+4+3)
17. Answer the following questions briefly:
- Describe two types of data collection instruments used in qualitative research studies. (2)
 - Mention three uses of Pilot studies. (3)
 - Define PICOTS with respect to framing a research question. (5)
18. Explain the following terms: (2.5*4)
- Confounding in a case control study
 - Blinding in randomized controlled trial
 - Conflict of interest in research studies
 - STROBE checklist
19. Answer the following questions:
- What is meant by 'hypothesis' in research? Name two types of research hypothesis and briefly explain each. (1+4)
 - What is meant by 'design effect' and 'loss to follow up'? How do you adjust for these while planning a research study? (3+2)
20. Write briefly on the following:
- Univariate and bivariate analysis with one example each (4)
 - ICMJE criteria for authorship in research publications (2)
 - Internal validity and external validity in epidemiological studies (4)