

KATHMANDU UNIVERSITY
End Semester Examination
June/July, 2023

Marks Scored:

Level : B.Tech.

Year : III

Exam Roll No. :

Time: 30 mins.

Course : BIOT 313

Semester : II

F. M. : 10

Registration No.:

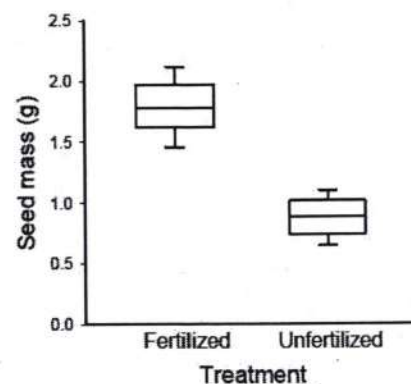
Date

03 JUL 2023

SECTION "A"
[20 Q. × 0.5 = 10 marks]

Encircle the most appropriate option.

- Which of the following is the mantra of academic writing?
 - Use as many appropriate technical terms as possible
 - Write with as much detail as possible
 - Write as clearly as possible
 - Write in the same style as Newton of physics
- If all the following titles are correct, which of the following is the most appropriate?
 - Origin of Ku protein
 - Evidence of horizontal gene transfer of Ku protein from archaea to eukarya
 - Evolution of Ku protein
 - Study of origin and evolution of Ku protein
- According to the "Scientist's Guide to Writing" what is appropriate in methods section
 - Detail specified such that experiment can be repeated
 - Detail such that credibility can be ascertained
 - Details as exemplified by Boyle
 - Details such that results can be interpreted
- What is the problem with this figure in the results section?
 - There isn't really any problem with this data presentation
 - The scales are not appropriate
 - There is too little data to be represented by a figure
 - The x axis does not have a scale and that is a problem
- What is the general order of review?
 - Self revision then friendly review then formal review
 - Formal review then self revision then friendly review
 - Friendly review then self revision followed by formal review
 - Formal review then friendly review then self revision
- What did Galileo put to test in the leaning tower?
 - He dropped two metal balls of different weight from the tower
 - He dropped a feather and a metal ball from the tower
 - He only dropped a heavy ball from the tower
 - He only dropped a light ball from the tower



7. Which of the following is **NOT** additional caveat associated with “seeing is believing”
 - a. Seeing by two people can be different
 - b. Seeing depends on experience by the observer
 - c. Seeing depends on the knowledge of the observer
 - d. Seeing is often complemented by other senses

8. Taking qualitative and qualitative data collection and analysis and comparing or relating the two and then interpreting them is which type of mixed method of research
 - a. Exploratory sequential
 - b. Explanatory sequential
 - c. Embedded design
 - d. Convergent parallel

9. What is the study of value and value judgments in philosophy?
 - a. Axiology
 - b. Ontology
 - c. Epistemeology
 - d. Value philosophy

10. According to your lecture how is painting similar to research design?
 - a. Both are creative endeavors
 - b. Both involve effort in all areas of the domain
 - c. Both involve human intelligence
 - d. Both need to be learnt through apprenticeship

11. A microbiome profiling of the feces of patients suffering from tuberculosis was carried out. Microbiome of forty-five tuberculosis affected patients and another forty-five non affected patients was collected at one time and microbiome was analyzed. This is a
 - a. Cross sectional study
 - b. Longitudinal study
 - c. Longitudinal study with time series data
 - d. Both a longitudinal and a cross sectional study combination

12. Which of the following methods involves testing a hypothesis?
 - a. Inductive reasoning
 - b. Hypothetical reasoning
 - c. Deductive reasoning
 - d. All of these mentioned

13. What is tacit knowledge?
 - a. It is the knowledge gained by studying in classroom
 - b. It is the knowledge gained by memorizing a textbook
 - c. It is the unwritten knowledge that helps you make connections in your head
 - d. It is well articulated speech by an orator

14. Which of the following is **TRUE**?
 - a. Peer review is an arcane mechanism almost abandoned by the research community
 - b. A research article published in Nepal Journal of Biotechnology is peer reviewed
 - c. A review paper in a blog is often peer reviewed
 - d. A newspaper article published in Kathmandu post is peer reviewed

15. What is snowball sampling?
 - a. Sampling by using volunteers
 - b. Sampling by going from only one particular representative region
 - c. Sampling by asking deeper and deeper questions
 - d. Sampling by taking referrals from participants

16. In a normal distribution about 99 percent of the samples fall within
 - a. 2 standard deviations
 - b. 2.5 standard deviations
 - c. 3 standard deviations
 - d. 3.5 standard deviation

17. Histograms are ideal figures to represent which of the following reading in the x-axis?
 - a. Nominal readings
 - b. Ordinal readings
 - c. Interval readings
 - d. readings

18. What about contingency questions are **FALSE**?
 - a. They are also called filter questions
 - b. They can get very complex
 - c. They usually require interviewer to answer at multiple times
 - d. They may use graphics

19. Which of the following does probing in an interview **NOT** entail?
 - a. Asking for alternative answers
 - b. Asking for elaboration
 - c. Asking for clarification
 - d. Asking for repetition

20. In which of the following surveys is low response rate likely?
 - a. Group questionnaire
 - b. Drop off questionnaire
 - c. Personal interview
 - d. Phone interview

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Indicate by checking (✓) of each question you have answered in the cover page of main answer book.

SECTION "B"
[8Q. × 2 = 16 marks]

Attempt *ANY EIGHT* questions.

1. Is a conclusion required in a paper? Describe.
2. IMRaD format follows an hourglass format. Describe.
3. What is an experiment?
4. Describe research lifecycle.
5. What is research framework?
6. How can you distinguish a dependent variable from an independent variable?
7. What is a Gantt chart?
8. What is expert sampling?
9. What population factors need to be taken into account before selecting a survey method?
10. What is the difference between questionnaire and interview?

SECTION "C"
[3Q. × 4 = 12 marks]

Attempt *ANY THREE* questions.

11. What is Kuhn's paradigm?
12. Describe the difference between two tailed and one tailed tests.
13. What is a systematic review? Describe.
14. Describe simple random sampling and stratified random sampling with examples.

SECTION "D"
[2Q. × 6 = 12 marks]

Attempt *ANY TWO* questions.

15. Write a two hundred-word abstract of the paper you wrote for your class project.
16. Describe falsificationism with examples.
17. In 2022 there was a dengue epidemic in Kathmandu. Design a questionnaire for 1000 Kathmandu residents to survey the prevalence of dengue in Kathmandu.