3 Yr. Degree/4 Yr. Honours 3rd Semester Examination, 2024
(under CCFUP of NEP 2020)

Time: 1½ Hours	Subject : STATISTICS	Full Marks: 40
Course: Multi/Interdisciplinary	Course Code : STAT3031 (MDC/IDC)	Course Title : Elementary Statistics

Roll No.: .... Registration No. .... of 20
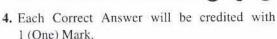
INSTRUCTIONS TO THE EXAMINEE

1. The Question-cum-Answer Booklet comprised of 40 Questions and each Question carrying 1 (one) mark.

2. Each Question possesses 4 (four) Answer Options (A), (B), (C) and (D) of which only one option bears Correct Answer.

3. Completely darken the respective circle for your response as shown below—

   Correct method ● Wrong method ⊘ ⊗ ◐

4. Each Correct Answer will be credited with 1 (One) Mark.

5. If an Examinee attempts more than one Option for a Question, the attempt will be considered as WRONG Answer.

6. No Mark will be deducted for attempting Wrong Answer or Incorrect attempts.

7. Only Blue/Black Ink Pen is to be used for Answering Question.

8. No Electronic Gadget (Calculator, Mobile Phone, Laptop, I-Pad, Camera etc.), Papers (Other than Admit Card) will be allowed inside the Examination Hall.

9. No Loose sheet will be provided for scribbling and No Paper is to brought in this purpose. Any Examinee found with incriminating Documents in his/her possession– he/she will be Expelled.

10. All rough work must be done in the page provided in the Question-Answer-Booklet, and the said Page of the Booklet **must not be torn out.**

11. No Examinee will be allowed to leave the Examination Hall until an Hour has elapsed from the commencement of the Examination.

12. As per order of the Executive Council all Answer Scripts will be preserved for one year from the date of Publication of Results.

১. Question-cum-Answer Booklet-এ মোট ৪০টি প্রশ্ন আছে এবং প্রতিটি প্রশ্নের মান ১ (এক)।

২. প্রতিটি প্রশ্নের জন্য ৪ (চার)টি করে Option (A), (B), (C) এবং (D) থাকবে, এর মধ্যে একটি সঠিক উত্তর নির্দেশ করবে।

৩. সঠিক উত্তরের জন্য নির্দিষ্ট বৃত্তটিকে সম্পূর্ণ রূপে কালো করতে হবে তা নীচে দেখানো হল—

   সঠিক পদ্ধতি ● ভুল পদ্ধতি ⊘ ⊗ ◐

৪. প্রতিটি সঠিক উত্তরের মান ১ (এক)।

৫. যদি কোনো পরীক্ষার্থী একটি প্রশ্নের একাধিক উত্তর দেয় তাহলে সেটি ভুল উত্তর হিসেবে গণ্য হবে।

৬. ভুল উত্তরের জন্য কোনো নম্বর বাদ যাবে না।

৭. উত্তর লেখার জন্য কেবলমাত্র নীল অথবা কালো কালির কলম ব্যবহার করা যাবে।

৮. পরীক্ষাকেন্দ্রের মধ্যে কোনো ইলেকট্রনিক্স যন্ত্রাদি (ক্যালকুলেটর, মোবাইল ফোন, ল্যাপটপ, আই-প্যাড, ক্যামেরা ইত্যাদি), কাগজ (কেবলমাত্র অ্যাডমিট কার্ড ছাড়া) নিয়ে প্রবেশ নিষেধ।

৯. হিজিবিজি বা রাফ লেখার জন্য কোনো বাড়তি কাগজ দেওয়া যাবে না এবং এই উদ্দেশ্যে কোনো কাগজ আনা যাবে না। কোনো পরীক্ষার্থীর কাছে নকল-এর মতো অপরাধমূলক কাগজ থাকলে সেই ছাত্র/ছাত্রীকে বহিষ্কার করা হবে।

১০. সমস্ত 'রাফ ওয়ার্ক' প্রশ্ন-উত্তর-পুস্তিকার সঙ্গে থাকা নির্দিষ্ট পাতাতেই করতে হবে এবং উত্তরপত্র জমা দেবার সময় **পাতাটি ছিঁড়ে নেওয়া যাবে না।**

১১. পরীক্ষা শুরু থেকে এক ঘণ্টা সময় অতিবাহিত না হলে কোনো পরীক্ষার্থী পরীক্ষার হল থেকে বের হতে পারবে না।

১২. বিশ্ববিদ্যালয় কর্ম সমিতি কর্তৃক গৃহীত সিদ্ধান্ত অনুসারে পরীক্ষার ফল প্রকাশের দিন থেকে এক বছরের জন্য উত্তরপত্র সংরক্ষিত থাকবে।

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Please Turn Over

1. The scope of statistical survey depends on
   (A) the objective.
   (B) availability of time.
   (C) resources.
   (D) All of the above ✓

2. Data are generally obtained from
   (A) primary resources.
   (B) secondary resources.
   (C) Both of the above ✓
   (D) None of the above

3. When the population under investigation is infinite, we should use the
   (A) sample method. ✓
   (B) census method.
   (C) either census or sample method
   (D) None of the above

4. Sampling error are present only in
   (A) complete enumeration survey.
   (B) sample survey. ✓
   (C) Both of the above
   (D) None of the above

5. Non-sampling error include—
   (A) bias
   (B) mistake
   (C) Both of the above ✓
   (D) None of the above

6. In chronological classification, data are classified on the basis of
   (A) class interual
   (B) attributes
   (C) time ✓
   (D) location

7. Geographical classification means classification of data according to
   (A) time
   (B) attribute
   (C) location ✓
   (D) class interuals

8. The mid-point of a class is obtained
   (A) by adding upper and lower-limits.
   (B) by deducting lower limit from upper.
   (C) by dividing the difference of upper and lower limits by 2.
   (D) by adding upper and lower limits and dividing it by 2. ✓

9. Diagram and graphs are tools of
   (A) collection of data
   (B) analysis
   (C) presentation ✓
   (D) summarisation

10. Which one of the following is false?
    (A) Nominal and ordinal scale are qualitative or categorical data.
    (B) Interual and ratio scale are quantitative or numerical data.
    (C) All properties of measurements holds together in ratio scale.
    (D) None of the above ✓

11. The sum of the deviations of individual observations is zero from

    (A) Mode

    (B) Median

    (C) Mean

    (D) None of the above

12. Which is affected most by extreme observations?

    (A) Mean

    (B) Median

    (C) Mode

    (D) None of the above

13. The measure of variation which is least affected by extreme observations is

    (A) Range.

    (B) Mean deviation.

    (C) S.D.

    (D) Q.D.

14. The co-efficient of correlation

    (A) has no limit

    (B) ≥ 1

    (C) ≤ 1

    (D) varies between (-1) and $(+1)$

15. The ranks according to two attributes in a sample are given below;

    R_1:   1   2   3   4   5

    R_2:   5   4   3   2   1

The rank correlation between them is;

    (A) 1

    (B) 0

    (C) (-1)

    (D) None of the above

16. There will be only one straight line in case of two variables if;

    (A) $r = 0$

    (B) $r = +1$

    (C) $r = -1$

    (D) $r = +1$ or -1

17. In linear trend equation; $Y = a + bx$; when b is positive indicates that;

    (A) declining trend

    (B) rising trend

    (C) No trend

    (D) None of the above

18. If an event can't take place, the probability will be—

    (A) $+1$

    (B) -1

    (C) 0

    (D) None of the above

19. $5C_2$ is equal to—

    (A) 20

    (B) 10

    (C) 1000

    (D) 0

20. Large sample theory is applicable when—

    (A) $N > 30$

    (B) $N < 30$

    (C) $N = 30$

    (D) None of the above

21. In forecasting
- (A) only future course of events are important.
- (B) only past course of events are important. ✓
- (C) Neither future nor past is important.
- (D) Both past and future are important.

22. Statistical forecasts turn out to be—
- (A) 100%
- (B) 90%
- (C) 50%
- (D) depends on each individual case. ✓

23. The no. of all pairable samples of size 2 from a proper of 4 units is
- (A) 2
- (B) 4
- (C) 6 ✓
- (D) None of the above

24. Which of the following component of time series can't be eliminated?
- (A) Regular component
- (B) Random error ✓
- (C) Cyclical fluctuation
- (D) Seasonal variation

25. One Kilo bytes =
- (A) 1000 bytes
- (B) 1084 bytes
- (C) 1024 bytes ✓
- (D) 1032 bytes

26. The height of an histogram represents the
- (A) class interual
- (B) class frequency
- (C) frequency density ✓
- (D) probability

27. The sum of squares of the deviations will be minimum from—
- (A) mean ✓
- (B) median
- (C) mode
- (D) None of the above

28. Absolute sum of the deviations is minimum from—
- (A) Mean
- (B) Median ✓
- (C) Mode
- (D) SD

29. When S is the sample space and A is an event of S then $A \cup \bar{A}$—
- (A) $> S$
- (B) $< S$
- (C) $= S$ ✓
- (D) None of the above

30. $A \subseteq B \Rightarrow$
- (A) $P(A) = P(B)$
- (B) $P(A) > P(B)$
- (C) $P(A) \leq P(B)$ ✓
- (D) $P(A) = P(B^c)$

31. We study sample instead of population to save
- (A) money
- (B) time
- (C) man power
- (D) All of the above ✓

32. What is the main role of research in education?
- (A) To upsurge one's social status
- (B) To increase one's job prospects
- (C) To augment one's personal growth
- (D) To help an applicant in becoming a better educationalist ✓

33. How is random sampling helpful?
- (A) Reasonably accurate
- (B) An economical method of data collection
- (C) Free-from personal biases
- (D) All of the above ✓

34. In order to persue the research which of the following is primely required?
- (A) Developing a research design
- (B) Formulating a research question ✓
- (C) Deciding about the data analysis procedure
- (D) Formulating a research hypothesis

35. The format of thesis writing is same as in
- (A) writing of seminar representation.
- (B) preparation of research paper/article.
- (C) a research dissertation. ✓
- (D) presenting a workshop/conference paper.

36. Which one of the following statement is true in the context of testing of hypothesis?
- (A) It is only the alternative hypothesis that can be tested.
- (B) It is only the null hypothesis that can be tested. ✓
- (C) Both can be tested
- (D) Neither of them can be tested

37. What are the condition in which type I error occurs?
- (A) The null hypothesis is accepted even it is false.
- (B) The null hypothesis is rejected even it is true. ✓
- (C) Both the null and alternative hypothesis is rejected.
- (D) The alternative hypothesis is rejected even it is true.

38. Evaluation research is concerned with—
- (A) how well are we doing. ✓
- (B) why are we doing.
- (C) what are we doing.
- (D) None of the above

39. Power of a test is (α = type I error, β = type II error).
- (A) $1 - \alpha$
- (B) $1 - \beta$ ✓
- (C) $\beta - \alpha$
- (D) $\alpha - \beta$

40. If type-I error decreases, type-II error generally—
- (A) increases ✓
- (B) decreases
- (C) remains constant
- (D) None of the above