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AMSI238IKS - T : ANCIENT AND MODERN STATISTICS IN INDIA

(NEP 2020) (2024 Pattern) (Semester - III)

Time : 2 Hours] *[Max. Marks : 35*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Use of any type of calculator is not allowed.***
3) ***Figures to the right indicate full marks.***

Q1) Attempt **any five** of the following multiple-choice questions by selecting correct option from the given options. **[5]**

a) The Katapayadi system of numeration assigns numbers to:

i) Planetary positions ii) Letters of the alphabet

iii) Names of sages iv) Sacred symbols

b) The earliest reference to the concept of infinity (ananta) and very large numbers is found in:

i) Arthashastra ii) Manusmriti

iii) Rigveda iv) Lilavati

c) Which statistical institution was established under the leadership of P. C. Mahalanobis and became a major centre of research in statistics in India?

i) National Statistical Office ii) Indian Statistical Institute (ISI)

iii) IASRI iv) Central Statistical Organisation

d) Which organisation is responsible for conducting large-scale statistical surveys such as consumer expenditure, employment, and social statistics?

i) Central Statistical Organisation ii) Perspective Planning Division

iii) National Sample Survey (NSS) iv) Reserve Bank of India

e) Which Vedic method allows mutliplication of any two numbers by breaking them into parts and mutliplying crosswise?

i) Criss-Cross system ii) Digit-sum method

iii) Base method iv) Magic squares

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f) Using the base method for squaring, which base would be most convenient for squaring 98?

i) Base 50 ii) Base 10

iii) Base 500 iv) Base 100

g) Which of the following is true about magic squares?

i) All diagonal sums must be zero

ii) Every row, column, and diagonal has the same sum

iii) Only odd-number squares can be magic squares

iv) They are used only for multiplication.

Q2) Solve ***any two*** of the following**.**

a) Describe the Aryabhatan system of numeration. **[5]**

b) Write a note on the development of Statistics in ancient India. **[5]**

c) Write a note on the Indian Agricultural Statistics Research Institure (IASRI). **[5]**

Q3) Solve ***any two*** of the following**.**

a) Using the base method of multiplication, multiply 97 × 94 and show every step clearly. **[5]**

b) Explain the Criss-Cross system of multiplication. Illustrate the method by multiplying any two 2-digit numbers of your choice. **[5]**

c) Using the digit-sum method, verify whether the multiplication 384 × 27 = 10368 is correct. Show all steps. **[5]**

Q4) Answer ***any one*** of the following**.**

a) i) Discuss the contribution of P.C. Mahalanobis to the growth of statistical institutions and planning in India. **[5]**

ii) Construct a 3 × 3 magic square where the sum of every row, column, and diagonal is the same. Show the final magic constant. **[5]**

b) i) Explain the role and functions of the Central Statistical Organisation(CSO). **[5]**

ii) Find the cube root of 17576 using the Vedic method. Explain how the last-digit rule helps in finding the answer quickly. **[5]**



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