RAN-2008000206020002

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T.Y.B.Com. (Honors) Semester VI Examination March - 2026

Business Statistics - II

Time: 2 Hours] **[Total Marks: 50**

સૂચના : / Instructions

(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the above details on your answer book.
(2) Sketch neat and labeled diagram wherever necessary.
(3) Figures in the right indicate full marks of the question.
(4) All questions are compulsory.
(5) Simple calculator can be used.
(6) Statistical tables and graph paper would be supplied on request.

Seat No.:

Student's Signature

Q. 1 a) Explain the test of goodness of fit. **(4)**

b) Draw the ATI curve and AOQ curve for a single sampling plan (1000, 100, 2). **(5)**

c) From the following information test that "the population standard deviation is 6". Sample size n=10 and sample variance $S^2 = 23.41$ **(4)**

Q. 2 a) Define the terms : (i) Producer's risk (ii) Consumer's risk **(4)**

b) Do the following data support the hypothesis **(4)**
H_0: "the sons of literate fathers are intelligent"

	Son's intelligent	**Son's not intelligent**
Father's literate	40	60
Father's illiterate	60	40

c) For a single sampling plabn [500, n, c] if $P^!$ is 2% and $P_a = 0.677$ and ATI = 229, Find the value of n and c. **(4)**

Q. 3 a) Explain - (i) Regret table (ii) Events **(4)**

b) The following shows a payoff matrix for different strategies for different state of nature: **(8)**

	EVENTS			
Acts	E_1	E_2	E_3	E_4
A_1	70	20	-10	50
A_2	40	30	40	40
A_3	30	40	20	40
A_4	50	10	0	60

Decide the best strategy by:
a) Maximax Rule
b) Maximin Rule
c) Laplace Rule
d) Hurwitz Rule ($\alpha = 0.7$)

Q. 4 **a) Write the short note on:** **(4)**
(i) Decision making under uncertainity
(ii) Decision tree

b) An agricultural company wants to decide which commodity should stock to get maximum profit. It was supplied with the following information. The probability that the monsoon will be excess, normal and deficient is 0.40, 0.30 and 0.30 respectively. The estimated profit or loss of these commodities with respect to these different kind of monsoons are **(9)**

	Monsoon		
Commodities	**Excess**	**Normal**	**Deficient**
Rice	10,000	-4,000	15,000
Wheat	4,000	-3,000	8,000
Maize	4,000	1,000	-1,000

Determine the optimal decision under each of the following decision criterion with working:
a) EMV
b) EOL
c) EVPI