

SURENDRANATH COLLEGE
INTERNAL ASSESSMENT
SEMESTER-1, 2018-19
SUBJECT- Mathematical Methods in Economics - I
CC-2

Time- 30 minutes

Full Marks- 10

CU Reg. No.-	SECTION-	ROLL NO.-
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MARKS OBTAINED	Signature of Examiner- With date
MARKS CONVERTED TO 10	Approved by HOD- With date

Question Booklet
GROUP A

Q No.	Question: Answer any 4 questions	Marks
1.	<p>a) Transpose of a rectangular matrix is a</p> <ol style="list-style-type: none"> 1. Rectangular matrix 2. Diagonal matrix 3. Square matrix 4. Scalar matrix <p>b) If A and B are matrices, then which from the following is true?</p> <ol style="list-style-type: none"> 1. $AB \neq BA$ 2. $(A^t)^t \neq A$ 3. $(A + B) \neq (B + A)$ 4. All are true <p>c) If A and B are sets $A \cap B = A \cup B$, then</p> <ol style="list-style-type: none"> 1. $A = B$ 2. $A = \emptyset$ 3. $B = \emptyset$ 4. None of these <p>d) Consider the subset $S = \{(x, y) : x \leq y \leq x^2 \text{ and } 0 \leq x \leq 1\}$ of R^2, the region bounded by the graphs of $y = x^2$ and $y = x$ on $0 \leq x \leq 1$. Which statement is true?</p> <ol style="list-style-type: none"> 1. S is a convex set that is closed and bounded 2. S is not a convex set but it is closed and bounded 3. S is a convex set that is closed and not bounded 4. S is not a convex and not a closed set but it is bounded 	(4X1=4)

	F) [0 0 0] is <ol style="list-style-type: none"> 1. Scalar matrix 2. Diagonal matrix 3. Identity matrix 4. Null matrix 	
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GROUP B

Q No.	Question: Answer any 2 questions (2 X 3 = 6)	Marks
2.(a)	Given $A = \{4,5,6\}$, $B = \{3,4,6,7\}$, and $C = \{2,3,6\}$, verify the distributive law.	3
2.(b)	In a class of 120 students, 70 students passed in English, 80 students passed in Hindi and 40 students passed in both English and Hindi. How many students failed in both the subjects?	3
2.(c)	Find $\lim_{x \rightarrow \infty} \left(\frac{x-3}{x+1} \right)^{x/2}$	3

