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SARASWAT EDUCATION SOCIETY'S
SRIDORA CACULO COLLEGE OF COMMERCE & MANAGEMENT STUDIES
KHORLIM, MAPUSA, GOA

B.Com – Honors / B.Com - General (NEP 20, w. e. f. 2023-24)

F.Y. B.COM. SEMESTER END ASSESSMENT, OCT/NOV, 2026

THEORY - REGULAR ODD SEMESTER I EXAMINATION

Subject:- BUSINESS MATHEMATICS – I. (SEC-1 COM-142) M.Marks:- 20
Credit : - 01 Duration:- 1 hrs.

Instructions:- 1. Number of printed pages is 2
2. Attempt all the questions.
3. Use of non-programmable calculator is allowed.
4. Each question carries equal 4 marks.
5. Each sub-questions of a question carries equal 2 marks, except Q.1.
6. Sub-questions of a question should be answered continuously.
7. Internal choice for sub-questions is available from question 3 onwards.

Q.1. Attempt the following:

State whether each of the following statement is true or false.

1. Simple interest is always calculated on the original principal.
2. Compound interest is calculated only on the original principal.
3. The amount is equal to principal plus interest.
4. Compound interest can be calculated annually, half-yearly or quarterly.

Q.2. Attempt the following:

a) Write down the following

i) Power set of B, where B = Set of vowels in the word "BANANA".

ii) Formula for accumulated value of an annuity

b) Find the second order derivative of $y = x e^x$

Q.3. Attempt the following:

a) Find the amount and compound interest on Rs. 1500/- for 4 years at 12% p.a., calculated on yearly basis.

b) Let $X = \{ x / x \in N, x \leq 10 \}$ be the universal set and
$A = \{ 2,3,5,7 \}$ and $B = \{ 1,3,5,7,9 \}$.
Verify that : i) $(A \cup B)' = A' \cap B'$
ii) $(A \cap B)' = A' \cup B'$

.OR.

c) Of the following two functions, find out which is a demand function and which is a supply function. Find the equilibrium price and the quantity demanded at that price:

$x = 50 - 4p - p^2$ $x = 3p + 6$

Q.4. Attempt the following:

a) Find the domain and range of f where $f(x) = 3 - 2x, \quad 2 \leq x \leq 8$

b) Integrate the following w.r.t. x

i) $x^5 + 5^x + e^x + 5$ ii) $(x + 3)(x - 2)$

.OR.

c) Two workers Ritesh and Pritesh are getting their salaries in the ratio 9:7 and the sum of their salaries was 6400. It was decided to deduct an equal amount from their salary so that they may be paid in the ratio 3:2. Calculate the deduction.

Q.5. Attempt the following:

a) Evaluate: $\int_{-1}^{2}(x + 1)dx$

b) Solve the equation : $2x^2 - 25x + 60 = x^2 - 40x + 10$

.OR.

c) Find the amount of an annuity if Rs. 5000/- is made semi-annually for seven years at 8% p.a. convertible semi-annually.

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