

SARASWAT VIDYALAYA'S
SRIDORA CACULO COLLEGE OF COMMERCE & MGMT. STUDIES
Khorlim, Mapusa-Goa.
B.COM FIRST SEMESTER END EXAMINATION OCTOBER, 2018
W.E.F-2017-18(C.B.C.S)

Duration:-2 Hours

Sub:- Commercial Arithmetic

MAX MARKS:-80

NB:-1 All questions are compulsory however main question wise choice to available

2. Use of Calculator is strictly prohibited.

3. Each main question carries 20 marks and every sub question 5 marks.

4. Log table/ graph paper can be had on request.

5. You may answer randomly but every main question attempted should be answered serially/ alphabetically.

Q.1 Attempt the following. (4×5=20)

a) Given that $A = \{x/x \in N, x \leq 20\}$ is the universal set..

$P = \{x/x \in A, x \text{ is divisible by } 2\}$, $Q = \{x/x \in A, x \text{ is divisible by } 3\}$ & $R =$

$\{x/x \in A, x \text{ is divisible by } 5\}$. Find $(P \cap Q)'$ and verify that $P \cup (Q \cap R) = (P \cup Q) \cap (P \cup R)$.

b) If $A = \begin{bmatrix} 2 & 1 \\ 0 & 3 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 2 \\ 3 & -2 \end{bmatrix}$, Verify that $|AB| = |A| \cdot |B|$

c) In how many ways can 4 maths, 3 statistics and 2 Economics books be arrange on a shelf, if the books on the same subject are to be together.

d) What sum of money will amount to Rs. 8432 in 4 years at 6% p.a simple interest?

OR

Q.1 Attempt the following. (4×5=20)

1. Let A = Set of letters of the word 'actual'

B = Set of letters of the word 'function'

C = Set of letters of the word 'formal', verify that $A \cap (B - C) = (A \cap B) - (A \cap C)$

2. Find the number of permutations of the word 'Engineering'

3. Three numbers are in A.P and their sum is 18. If the first is not changed and the second and the third are decreased by 2 each, they form a G.P find the numbers in A.P.

4. In how many years the amount of the money will be double the principal at simple interest 12% p.a.

Q.2. Attempt the following (4×5=20)

- a) If the third term of an AP is 7 and the fifth term is 13, find the n^{th} term of the A.P.
- b) If X is the universal set and A, B are subsets of X such that $n(X)=99$, $n(A)=80$, $n(B)=85$ and $n\{(A \cap B)'\}=94$. Find $n(A \cup B)$.
- c) Solve the following for x
- $$\begin{vmatrix} 8 & 3 & -2 \\ 5 & 6 & x \\ 18 & 15 & 10 \end{vmatrix} = 0$$
- d) What principal will yield Rs.1000/- as simple interest at 8% p.a in 5 years.

OR

Q.II. Attempt the Following (4×5=20)

1. Find the compound interest on Rs.10,000/- for 8 years at 5% p.a also find the amount after 8 years.
2. From among 2000 literate individuals of a town, 60% read newspaper A, 55% read newspaper B and 20% read neither A nor B. How many individuals read both the newspapers A as well as B?
3. Solve the following equation using determinants.
 $X+4y+2z=7$, $8x+4y+z=13$, $-3x-2y+5z=0$
4. Find the future value of Rs.20,00,000/- after 3 years if the compound interest rate is 8% p.a

Q.3. Attempt the following (4×5=20)

- a) How many four digit numbers greater than 4,000 can be formed with the digits 2,3,4,5,6 and 7 if i) repetition of digits is not allowed and ii) repetition of digits is allowed.
- b) Find the sum of all three digit numbers which are divisible by 13
- c) Test whether the proposition $p \wedge (\neg(p \vee q))$ is a tautology or a contradiction or none of the two
- d) Find the present value of Rs.40,00,000/- required for 4 years from now if the compound interest rate is 5% p.a

OR

Q.III Attempt the following (4×5=20)

1. Find n if ${}^n P_6 = 60 \cdot {}^n P_3$
2. If $a=3, t_n=103, S_n=1060$, find d
3. Construct the truth table for $p \rightarrow (\sim q \rightarrow p)$ and comment on your finding.
4. Find the amount of an annuity of Rs. 5000/- which is made semi-annually for 7 years at 8% p.a convertible semi-annually (given that $(1.04)^{14} = 1.7317$)

Q.IV Attempt the following (4×5=20)

1. Find the value of n if ${}^n C_5 = 30 \cdot {}^n C_3$
2. Show that the proposition $\sim(p \vee q) \leftrightarrow (\sim p \wedge \sim q)$ is a tautology.
3. In a G.P the ratio of the sum of the first 8 terms to the sum of the first four terms is 97:81. Show that the common ratio of the G.P is $\frac{2}{3}$.
4. Find the present value of an immediate annuity of Rs. 30,000 p.a for 3 years with interest compound at 8% p.a

OR

Q.IV Attempt the following (4×5=20)

- a) Find the value of n if $4 \cdot {}^n P_3 = 5^{n-1} P_3$
- b) Suppose that the statements p, q, r & s are assigned truth values T, F, F, and T respectively. Find the truth value of the following
 - i) $(p \vee r) \leftrightarrow (r \wedge \sim s)$
 - ii) $(q \wedge \sim s) \rightarrow (p \leftrightarrow s)$
 - iii) $p \rightarrow (p \rightarrow q)$
- c) Sum of three numbers in A. is 12 and the sum of their squares is 50. Find the numbers.
- d) In how many years will sum of money will double itself at 33% p.a simple interest?

p	T
q	F
r	F
s	T

$$(p \vee r) \leftrightarrow (r \wedge \sim s) = F$$

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B. COM. FIRST SEMESTER END EXAMINATION, OCTOBER 2018
W.E.F. 2017 – 18 (C.B.C.S)

Duration: - 2 Hours

Sub: - General Management (CC 1)

Max Marks: - 80

Instructions:

- 1) **All questions are compulsory, however internal choice is available.**
- 2) **Answer sub-questions in question 1 and question 2 in not more than 100 words each.**
- 3) **Answer question 3 to question 6 in not more than 400 words each.**
- 4) **Figures to the right in the brackets indicate maximum marks to the question/sub-question.**
- 5) **This question paper consists of 2 pages.**

1. Write short notes on **any four** of the following.

(4×4=16)

- a. Distinction between Administration and Management (Any four points)
- b. Rationality in Decision Making
- c. Unfreezing stage of Organisational Change
- d. Environmental impact of Corporate Practices
- e. Features of Japanese Management (Any four points)
- f. Steps in Creativity

2. Write short notes on **any four** of the following.

(4×4=16)

- i. Reasons for inter-group conflict (Any four points)
- ii. Logistics management
- iii. Contingency Approach of Modern Management
- iv. Limitations of Decision Making (Any four points)
- v. Levels of organisational change
- vi. Individual Stressors

P.T.O.