SHREE NARAYANA COLLEGE OF COMMERCE

AHMEDABAD

Name of the Department: _____

Subject: Advance Business Mathematics

Class & Semester: BBA (Hons.) Sem ll

Faculty Name: Yogesh Kumar Ved

ASSIGNMENT

SECTION – 1 (UNIT – 1)

Q.1 Find the slopes of the lines joining the following pairs of points :

(a) A (3,4) and B (8,7)
(b) A (-4,5) and B (6, -7)
(c) A (1, 8) and B (6, -3)
(d) A (0, 0) and B (-4, -6)

Q.2 Obtain the slope and intercepts on both the axes of the line joining the points (3, -5) and (-7, 9)

Q.3 Find the equation of a line joining points A (4, 5) and B (7, 5)

Q.4 Find the slope and intercepts on Y-axis of the following lines :

(a) $2x - 5y + 7 = 0$ (b) $4x + 3y = 1$

Q.5 Describe the mathematical contributions of Srinivasa Ramanujan and Pingala.

SECTION – 2 (UNIT – 2)

Q.1 Find the compound interest on Rs. 10,000 at 5 % per annum for 10 years. Also find amount.

Q.2 A person deposited Rs. 10,000 in a bank at 5% interest compounded annually. After 5 years the rate of interest was 6% and after 4 year the rate of interest was 7%. Then find the amount after 12 years.

Q.3 Calculate simple interest on Rs. 20,000 at the rate of 5 % for 3 years.

Q.4 A person deposited Rs. 50,000 with a money lender at 6% rate of simple interest. After some time he receive interest Rs. 15,000. Find out the period for which he deposited the money.

Q.5 A man lent Rs. 80,000 for 3 years and Rs. 60,000 for 5 years at the same rate of interest. He receive total interest Rs. 32,400. What is the rate of interest.

SECTION – 3 (UNIT – 3)

Q.1 Find A + B, B-A and A-B from the following matrices : $A = \begin{bmatrix} 0 & 1 & 2 \\ 5 & 7 & 6 \end{bmatrix} B = \begin{bmatrix} 5 & 0 & -2 \\ 7 & -6 & 0 \end{bmatrix}$

Q.2 If $\begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$ *and* $B = \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$ Find AB and BA. Is AB = BA ?

Q.3 Find inverse of the matrix : $A = \begin{bmatrix} 2 & 3 & 1 \\ 0 & 5 & 6 \\ 1 & 1 & 2 \end{bmatrix}$

Q.4 Using inverse matrix, solve the following equations :

2x + 5y = 16

3x + y = 11

Q.5 Using inverse matrix solve the following equations :

2x + 3y -z = 5

3x + 2y + z = 10

X – 5y + 3z = 0

SECTION – 4 (UNIT – 4)

Q.1 Find the value of the following : (a) ${}_9P_4$ (b) ${}_7P_5$

Q.2 Find the value of n from the following : (a) ${}_nP_3 = 210$ (b) ${}_6P_n = 120$

Q.3 Find k if ${}^8P_5 = {}^7P_5 + k.\ {}^7P_4$

Q.4 Find r if ${}^nC_r : {}^nP_r = 1 : 120$

Q.5 In how many ways a committee of 4 professors of 4 professors can be formed out of 11 professors ?

SECTION – 5 (REVISION & PRACTICE)

Multiple Choice Questions (MCQs)

Q.1 The point (3, -2) lies in which quadrant ?

(a) I (b) II (c) III (d) IV

Q.2 If principal Rs. 1000, rate is 10% per annum and time is 2 years, What is the simple interest ?

(a) 100 (b) 200 (c) 300 (d) 400

Q.3 What is the compound interest on Rs. 1000 at 10% per annum for 1 year ?

(a) 100 (b) 110 (c) 121 (d) 90

Q.4 If A is a 2x3 matrix and B is a 3x2 matrix, what will be the order of AB ?

(a) 2x2 (b) 3x3 (c) 2x3 (d) 3x2

Q.5 What is the value of ${}_5P_2$?

(a) 10 (b) 20 (c) 25 (d) 5

True or False statements

1. In simple interest, interest is calculated only on the principal amount every year.
2. In the compound interest, interest is calculated on interest as well.
3. In matrix multiplication, A x B is walys equal to B x A.
4. ${}^0P_0 = 1$
5. In coordinate geometry, the origin is (0,0)

Match the Following

Column A	Column B
1. Simple Interest	A. . n! / (n – r)!
2. Compound interest	B. $A = P(1 + r/100)^n$
3. Permutation	C. PRT/100
4. Identity Matrix	D. x>0, y>0
5. Origin	E. (0,0)
6. First Quadrant	F. Diagonal element = 1
7. Annuity	G. 2 rows, 3 columns
8. 2 x 3 Matrix	H. equal payment at equal intervals
