M.V.D.H JUNIOR COLLEGE OF ARTS, SCIENCE AND COMMERCE, SHAHAD

MATHS-II UNIT TEST

STD:- 11th

TIME:- 45 Mins

MARKS:-25

DATE:- 04|02|2023

Instructions:-

1) The question paper is divided into 4 sections. These 4 sections are further divided into sub questions.

2) Each question contains different marks.

3) All questions are compulsory.

SECTION-A

Q.1) Multiple Choice Questions(MCQs)   (1*4 = 4marks)

i) Find the value of $^6P_6$=?

a) 700   b)750   c) 720   d) 780

ii) $n! = n*(\underline{\quad} -1)!$

a) n   b) m   c) a   d) mn

iii) $6! / 3! = ?$

a) 100   b) 200   c) 120   d) 150

iv) $^nC_r = {}^nC_{\underline{\quad}} = ?$

a) n+r   b) n-r   c) n*r   d) n/r

SECTION-B

Q.2) Solve the following.   (2*4 = 8marks)

i) Find the value of $^7C_3$

ii) Find the number of permutations of letters in ' DIVYA' word.

iii) Find the value of $^5P_2$

iv) Evaluate $10! - 6!$

SECTION-C

Q.3) Solve any three of the following.   (3*3 = 9marks)

i) A teacher wants to select the class monitor in a class of 30 boys and 20 girls. In how many ways can the monitor be selected if the monitor must be either a girl or a boy?

ii) Write in terms of factorials:- a) 5*6*7*8*9*10   b) 6*7*8*9

iii) Find the number of arrangement of letters in the word MUMBAI so that the letter B is always next to A.

iv) A committee of 10 members sits around a table. Find the number of arrangements that have the president and vice president together.

SECTION-D

Q.4) Solve any one of the following.   (4*1 = 4marks)

i) Find the value of a) $^{15}C_4$ b) $^{15}C_4 + ^{15}C_5$

ii) Find the number of arrangements of the letters in the word 'SOLAPUR' so that consonants and vowels are placed alternately.

class-XI-Maths   Blue Print   sub:- Maths-II

S.No	Content	Knowledge			Understanding			Application			Skills			Total
		O	S	L	O	S	L	O	S	L	O	S	L	
i)	chapter 3 — Permutation and Combination. Fundamental principles of counting - Addition and multiplication Principle								1(3)					1(3)
ii)	Factorial Notation	1(1)			1(1)	1(2)								3(4)
iii)	Permutation when all objects are distinct					1(2)								1(2)
iv)	Permutations when repetitions are allowed				1(1)									1(1)
v)	Permutations when some objects are identical					1(2)	1(4)			1(3)				3(9)
vi)	Circular Permutation									1(3)				1(3)
vii)	Combination	1(1)				1(2)								2(3)
	Total	2(2)			2(2)	4(8)	1(4)		1(3)	2(6)				25m

Note:- 1) Figures with bracket indicates marks.
2) Figures outside the bracket indicates number of questions.
3) O-Objective   S-Short answer   L-Long Answer.