2/16

1002E1594

Candidate's Seat No :_____

BBA in THM (NEP) Sem.-1 Examination

DSC-M-THM-113

Business Mathematics of Service Industries

Time : 2-00 Hours] **February-2025** **[Max. Marks : 50**

Instructions:

1) **Figures to the right indicate Full Marks.**
2) **Do not write anything on the question paper.**
3) **Do not use scientific calculator.**

<table>
<tr><td>Q.1</td><td>Solve the Questions:
1) How many terms are there in an AP 8,16,24, 32....5240
2) 35+40+45+50+.....+700
3) $(2a + 3)^5$</td><td>3
3
4</td></tr>
<tr><td>Q.2</td><td>Find the value of x and y by using Interpolation.
<table><tr><td>Year</td><td>2005</td><td>2006</td><td>2007</td><td>2008</td><td>2009</td><td>2010</td></tr><tr><td>Production in tons</td><td>5</td><td>x</td><td>10</td><td>15</td><td>26</td><td>y</td></tr></table>
OR
Solve the Questions: 1) If 56 x n! = 8! then find the value of n.
2) Nc2= 45 then find the value of N.</td><td>10</td></tr>
<tr><td>Q.3</td><td>Solve the Questions: 1) If $n_{p3} = 720$ then find the value of n.
2) 7,10,13,15, _ _ _ _ 21^{th} term, then s_{21} = _____
OR
Solve the Questions: 1) If $a_1 = -14$ and d = 5 of an arithmetic sequence the s_8 = _____
2) -3,2,7,12_ _ _ _ _ _, 25^{th} Term, then a_{25} = _____</td><td>10</td></tr>
</table>

(P.T.O)

Q.4	Solve the Questions: 1) If $N_{C9} = N_{C8}$ then find the value of N_{C17}. 2) Solve the following sum by using binomial expansion $(101)^4$ 3) A committee of 3 persons is to be constituted from a group of 2 men and 3 women. In how many ways can this be done? How many of these committees would consist of 1 man and 2 women? **OR** Solve the Questions: 1) 1000+995+990+985+980+..... +100 2) In how many ways can 4 red, 3 yellow and 2 green discs be arranged in a row if the discs of the same colour are indistinguishable? 3) $(x - 5y)^5$	3 3 4
Q.5	(A) Find the number of arrangements of the word INDEPENDENCE. In how many of these arrangements, (1) Do the words start with P (2) Do all the Vowels always occur together (3) Do the vowels never occur together (4) Do the words begin with I and end in P? (B) Solve the Questions: 1) If 10 x n! = 7200 the find value of n. 2) If (n + 1)! = 120 then find the value of n.	5 5