

K20U 1327

Reg. No. : .....

Name : .....

**III Semester B.B.A./B.B.A.(TTM)/B.B.A.(RTM)/B.B.M. Degree  
(CBCSS – Suppl./Imp.) Examination, November 2020  
(2014-'18 Admns.)  
General Course**

**3A12 BBA/BBA(TTM)/BBA(RTM)/3A11BBM : NUMERICAL SKILLS**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

Answer the 4 questions. **Each** question carries  $\frac{1}{2}$  mark : **(4×½=2)**

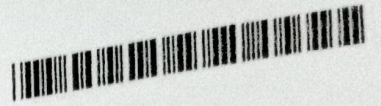
1. Divide 32 in the ratio 5 : 3.
2. Solve  $(x - 2) + 4(x - 5) - 20 = x - 6$  for x.
3. Find the total interest at the end of 5<sup>th</sup> year for Rs. 5,000 at 10% p.a, simple interest.
4. Which is the even prime number ?

**SECTION – B**

Answer **any 4** questions. **Each** question carries 1 mark : **(4×1=4)**

5. Find the weighted average of the values 10, 15, 20, 25, 30 if the respective weights associated with these values are 3, 5, 7, 4, 1.
6. Find the compound interest for Rs. 7,000 for 4 years if interest is payable half yearly at 6% p.a.
7. Find the present value of Rs. 400 due after 5 years compounded annually at the rate of 8%.





8. Write the determinant of  $A = \begin{bmatrix} 4 & -3 \\ 1 & 8 \end{bmatrix}$ .
9. Write down all the subsets of the set  $A = \{1, 3, 5\}$ .
10. The 1<sup>st</sup> term of a GP is 64 and the 5<sup>th</sup> term is 4. If the sum of all terms is 128, what is the common ratio ?

## SECTION - C

Answer **any 6** questions. **Each** question carries **3** marks :

(6×3=18)

11. Ages of two people are in the ratio 3 : 4. After 10 years their ages would be in the ratio 4 : 5. Find their ages.
12. A seller sells 7 goats and 8 dogs at Rs. 2,940 and 5 goats 6 dogs at Rs. 2,150. What is the selling price of each ?
13. A machine depreciates in value each year at 10% of its previous value and at the end of the fourth year its value is Rs. 1,31,220. Find the original value.
14. Solve the quadratic formula  $2x^2 + 8x + 8 = 0$ .
15. Find the natural numbers whose sum is 20 and whose product is 91.
16. If  $A = \{a, b\}$  and  $B = \{2, 3\}$  and  $C = \{3, 5\}$  find i)  $A \times (B \cup C)$  ii)  $(A \times B) \cap (A \times C)$  iii)  $A \times A$ .
17. Find the sum of first 22 terms of an AP in which  $d = 7$  and 22<sup>nd</sup> term is 149.
18. Solve :  $x - y = 2$   
 $2x^2 + 5y^2 = 23$ .



## SECTION – D

Answer **any two** questions. **Each** question carries **8** marks :

(2×8=16)

19. A loan of Rs.1,000 is to be repaid in five equal installments, interest being at 6% per annum compound interest and first payment being made after a year. Analyse the payment into those on account of interest and on account of amortization of the principal.

20. Find the inverse of A where  $A = \begin{pmatrix} 3 & 1 & -1 \\ 2 & -1 & 2 \\ 2 & 1 & -2 \end{pmatrix}$ .

21. Let A, B and C represent people who like apples, bananas and carrots respectively. The number of people in A = 10, B = 12 and C = 16. Three people are such that they enjoy apples, bananas as well as carrots. Two of them like apples and bananas. Let three people like apples and carrots. Also, four people are such that they like bananas and carrots. Answer the following questions:

- How many people like apples only ?
  - How many people like banana only ?
  - How many people like carrots only ?
  - Draw the Venn diagram .
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