

Reg. No. : .....

Name : .....

III Semester B.B.A./B.B.A.(R.T.M.) Degree CBCSS (OBE) – Regular  
Examination, November 2020  
(2019 Admission Only)

GENERAL AWARENESS COURSE  
3A11 BBA/BBA (RTM) : Numerical Skills

Time : 3 Hours

Max. Marks : 40

## SECTION – A

Answer **all** the questions. **Each** question carries **one** mark.

1. Find the Mean proportional between 27 and 43.
2. Represent A-B by means of Venn diagram.
3. Two-third of a number increased by 5 equals 27. Calculate the number.
4. Compute the 14<sup>th</sup> term of the series  $13 + 17 + 21 + 25 + \dots$
5. If  $(x + 1, 2) = (4, y - 2)$ ; then determine the value of x and y.
6. Determine the quadratic equation whose roots are 3 and -2.

(6×1=6)

## SECTION – B

Answer **any six** questions. **Each** question carries **two** marks.

7. If the AM between 5 and  $(4x + 1)$  is 6. Identify the value of x.
8. Solve  $y^2 + 5y = 14$ .
9. If  $A = \begin{bmatrix} 3 & 2 \\ 2 & 1 \end{bmatrix}$  and  $B = \begin{bmatrix} -1 & 0 \\ 2 & 1 \end{bmatrix}$ ; compute  $(2A + B)(A - 3B)$ .
10. At what rate, would a sum of money doubles in 10 years ?
11. The ratio of present age of father to that of his son is 5 : 3. Ten years before, their ratio was 2 : 1. Determine their present ages.
12. Solve  $x + y = 5$  and  $xy = 6$ .
13. Three numbers in ascending order are in GP such that their product is 512. Identify the middle number.
14. An employer pays wages ₹ 60 per male worker and ₹ 45 per female worker each per day. If he engages 8 male and 4 female workers on some day, then calculate the average wage per worker on that day.

(6×2=)

## SECTION – C

Answer **any four** questions. **Each** question carries **three** marks.

15. The Mean of four numbers is 9. If one number is excluded, the mean becomes 8. Determine the excluded number.
16. Among 60 people, 35 can speak in English; 40 in French and 20 in both the languages. 2
- a) Calculate how many can speak in atleast one of the languages. 1
- b) How many can't speak in any of these languages ?
17. The supply and demand curves for a commodity are known to be  $Q_s = P - 1$  and  $Q_d = 12/p$ . Find the equilibrium price and quantity. (Hint : For equilibrium,  $Q_d = Q_s$ ).
18. If 10 times the 10<sup>th</sup> term of an AP is equal to 15 times the 15<sup>th</sup> term, then show that 25<sup>th</sup> term is zero.
19. If  $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ ,  $A = \{1, 2, 3, 5\}$  and  $B = \{5, 6, 7, 8\}$ ; Verify that  $(A - B)^c = A^c \cup B^c$ .
20. Monthly income of Ram and Rahim are in the ratio of 5 : 7. Their monthly expenses are in the ratio of 7 : 1. If each of them saves ₹ 60 per month, then compute their monthly incomes. (4×3=12)

## SECTION -- D

Answer **any two** questions. **Each** question carries **five** marks.

21. Solve  $(x + y)^2 + (x + y) - 6 = 0$  and  $(x - y) = 1$ .
22. Suppose the 6<sup>th</sup> and the 17<sup>th</sup> term of an AP are 19 and 41 respectively; then- 3
- a) Calculate the 1<sup>st</sup> term and the common different of the AP. 2
- b) Identify the 40<sup>th</sup> term of the AP.
23. Two vessels contain mixtures of milk and water in the proportion of 2 : 3 and 4 : 3 respectively. In what proportions, should the two mixtures be mixed so as to form a new mixture containing equal quantities of milk and water ?

24. Find the Inverse of  $A = \begin{bmatrix} 3 & 5 & 7 \\ 2 & -3 & 1 \\ 1 & 1 & 2 \end{bmatrix}$  (2×5=10)
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