K20U 1921

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 14th term of the series $13 + 17 + 21 + 25 + ...$

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=12)

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.

    a) Calculate how many can speak in atleast one of the languages.   2

    b) How many can't speak in any of these languages ?   1

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 10th term of an AP is equal to 15 times the 15th term, then show that 25th 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 $(A - B)^l = A^l \cup B$.

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 6th and the 17th term of an AP are 19 and 41 respectively; then-

    a) Calculate the 1st term and the common different of the AP.   3

    b) Identify the 40th term of the AP.   2

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)