D 130927 (Pages : 3) Name...

Reg. No.....................................

THIRD SEMESTER B.VOC. DEGREE EXAMINATION
NOVEMBER 2025

Common Course

A11—BASIC MATHEMATICS AND GENERAL AWARENESS

(2019 Admissions)

Time : Two Hours and a Half Maximum : 80 Marks

Section A (Short Answers)

Answer **all** *questions.*
Each question carries 2 *marks.*
Ceiling marks for Section A is 25 *marks.*

1. Find the HCF of $2^3 \times 3^2 \times 5 \times 7^4$, $2^2 \times 3^5 \times 5^2 \times 7^3, 2^3 \times 5^3 \times 7^2$.

2. Find the average of the first five multiples of 3.

3. Express 15 % as a decimal.

4. If P is the brother of Q, Q is the sister of R, and R is the father of S. How is P related to S ?

5. Define qualitative research.

6. Write any *two* differences between RAM and ROM.

7. Explain the term Web Browser.

8. Find out which one of the alternatives bears the same relation with the third object as first and second objects related.

   Sun : Day :: Moon : ?

   (a) Sky. (b) Night.

   (c) Star. (d) Earth.

9. What is Phishing ?

10. Write any *two* features of Internet Banking.

11. Explain Demand Draft (DD).

Turn over

12. What is a Database Management System (DBMS)?

13. Write the formula for the nth term of an Arithmetic Progression (AP).

14. If 12 men can do a piece of work in 20 days, how many men will be required to do the same work in 15 days ?

15. Arrange the following words in a meaningful sequence :

    (i) Family ; (ii) Community ; (iii) Member ; (iv) Locality ; and (v) Country.

Section B (Paragraphs)

Answer **all** *questions.*
Each question carries 5 *marks.*
Ceiling marks for Section B is 35 *marks.*

16. The ratio of the salaries of A and B is 5 : 3. If the salary of A is increased by 20 % and B's salary is increased by 10%, the total of their salaries becomes Rs. 35,000. Find the original salary of B.

17. If a person bought an article for Rs. 500 and sold it at a profit of 25%, find the selling price (SP).

18. Six friends P, Q, R, S, T, and U are sitting in a circle facing the center, P is between T and U. Q is second to the left of U. R is second to the right of S. Who is sitting to the immediate right of Q ?

19. Explain the different ethical considerations that must be followed while conducting research.

20. Explain the different types of computer memory (primary and secondary).

21. What are the functions of a Central Bank ?

22. Explain the concept of Electronic Funds Transfer (EFT) and list its various modes.

23. In the following question, a relationship is given. Find the missing term :

$$\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16} ?$$

Section C (Essays)

Answer any **two** *questions.*
Each question carries 10 *marks.*

24. A mixture contains honey and water in the ratio 4: 3. If 5 litres of water is added to the mixture, the ratio becomes 4: 5. Find the quantity of honey in the given mixture.

25. In the following question there is a problem followed by two statements numbered I and II. You have to decide which of the statements is/are sufficient to answer the problem.

    (A)   If the data given in statement I alone are sufficient to answer the problem.

    (B)   If the data in statement II alone are sufficient to answer the problem.

    (C)   If the data either in I or II alone is sufficient to answer the problem.

    (D)   If the data even in both the statements together are not sufficient to answer the problem.

    (E)   If the data in both the statements together are needed.

Problem : What is the height of person Q ?

    I   :   The average height of P and Q is 170 cm.

    II   :   The height of P is 5 cm less than R's height, and R is 175 cm tall.

26. Explain the various types of insurance (Life, Health, Property, etc.) and discuss the key principles of insurance.

27. Define operating system. Explain the different functions and types of operating systems in detail.

$(2 \times 10 = 20 \text{ marks})$