



K24U 3201

Reg. No. :

Name :

V Semester B.A. Degree (CBCSS – Supplementary)
Examination, November 2024
(2018 Admission)
CORE COURSE IN ECONOMICS/DEVELOPMENT ECONOMICS
5B07 ECO : Basic Tools for Economic Analysis – I

Time : 3 Hours

Max. Marks : 40



PART – A

Answer **all** questions, **each** question carries **1** mark.

(4×1=4)

1. Define 'power set' and give an example.
2. Simplify $(x^2 + y^3)(2x + y + 1)$.
3. Define 'population' and give an example.
4. Find the probability of getting at least one head while tossing two coins simultaneously.



PART – B

Answer **any 7** questions, **each** question carries **2** marks.

(7×2=14)

5. Find the mean, median and mode of the following data.
–3, 5, 0, –1, 6, 2, 3, 5
6. Solve the quadratic equation $x^2 - 2x - 35 = 0$.
7. Solve $3^{x+3} = 9^{x+2}$.
8. Find the expression for the sum of first n natural numbers.

P.T.O.



9. The demand for a commodity is $D = 40 - 2p$, the supply function is $S = -20 + 4p$. Find :
- equilibrium price
 - the quantity exchanged in the market at this price.
10. Distinguish between mean deviation and standard deviation.
11. In an A.P. first term is 3, common difference is 5, find the 15th term.
12. In a class, 26 can speak English, 30 can speak Hindi and 10 speak both. How many students can speak at least one language ?
13. A cyclist pedals from his house to the college at a speed of 10 km/h and back from the college to his house at 15 km/h. Find the average speed.
14. Define independent events using an example.

PART – C

Answer **any 4** questions, **each** question carries **3** marks.

(4×3=12)

15. If the 5th term and the 9th term of an A.P. are 25 and 41 respectively. Find the series.
16. The demand and supply functions of two commodities A and B are $D_A = 3P_A + P_B$, $D_B = P_A + P_B$, $S_A = 3 - P_A + 6P_B$ and $S_B = 4P_A - 3P_B + 5$. Find the equilibrium price and quantities.
17. Using logarithm, evaluate $(6.32)^2 \times \sqrt[4]{83.94}$.
18. Find median of the following frequency distribution.
- | | | | | |
|--------------------|---------|---------|---------|---------|
| Class : | 40 – 49 | 50 – 59 | 60 – 69 | 70 – 79 |
| Frequency : | 3 | 7 | 9 | 4 |
19. Write a short note on :
- Variance and coefficient of variation
 - Absolute and relative dispersion.



20. A box contains 20 balls of the same size of which 8 are red, 9 are blue and 3 are white balls. Three balls are drawn at random. What is the probability that
- a) All balls are blue
 - b) 2 red and 1 white
 - c) The balls are of different colour ?

PART – D

Answer **any 2** questions, **each** question carries **5** marks.

(2×5=10)

21. Solve the following simultaneous linear equations.

$$4x + y - 5 = 8$$

$$-2x + 3y + z = 12$$

$$3x - y + 4z = 5$$

22. Find the mean deviation about the mean for the following data.

Class Interval	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
Frequency	5	15	17	11	2

23. Show that $\log 2 + 16 \log \frac{16}{15} + 12 \log \frac{25}{24} + 7 \log \frac{81}{80} = 1$.

24. Explain different methods of sampling.

