

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - VI Computer Science & Engineering AI & ML : SUMMER : 2025
SUBJECT: QUANTITATIVE TECHNIQUES, COMMUNICATION & VALUES

Day : Friday
Date : 30/05/2025

S-23974-2025

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.

- 1) All questions are COMPULSORY.
- 2) Figures to the RIGHT indicate FULL marks.
- 3) Assume suitable data WHEREVER necessary.
- 4) Calculator and any smart gadgets are not allowed.

Q.1 Solve the following questions :

(10)

- 1) The average age of 6 boys is increased by 2 years when three of them, whose ages are 14, 12 and 10 years, are replaced by 3 girls. What is the average age of a girl?
 - i) 18
 - ii) 14
 - iii) 16
 - iv) 12
- 2) The average age of 20 boys is 13 years. The average age of first 11 boys is 12 years; average age of next 8 boys is 14 years. Find the age of 20th boy?
 - i) 12 years
 - ii) 14 years
 - iii) 13 years
 - iv) 16 years
- 3) In a mixture of 45 liters the ratio of milk and water is 3:2. If we want to convert the ratio 2:3 how much water should be added?
 - i) 13.5 liters
 - ii) 22.5 liters
 - iii) 14 liters
 - iv) 15.5 liters
- 4) Find which of the following ratio is the greatest?
 - i) 5:9
 - ii) 21:25
 - iii) 13:17
 - iv) 3:7
- 5) If 8 men working 9 hours per day can complete a work in 32 days. Then 12 men working 8 hours per day require how many days to complete the work?
 - i) 18
 - ii) 36
 - iii) 22
 - iv) 24
- 6) In an examination a student who got 32% of the total marks failed by 8 marks and another student who got 35% of total marks got 16 marks more than the pass mark then total marks are?
 - i) 900
 - ii) 1000
 - iii) 800
 - iv) 600
- 7) 30% of the people read newspaper X, 50% read newspaper Y and 20% read both the papers. What percentage of the people read neither of the newspaper?
 - i) 5%
 - ii) 20%
 - iii) 15%
 - iv) 40%
- 8) A mixture of a certain quantity of milk with 10 liters of water is worth Rs. 5.5 a liter. If pure milk be worth Rs. 10.5 a liter, how much milk is there in the mixture?
 - i) 10 lit.
 - ii) 12 lit.
 - iii) 11 lit.
 - iv) 13 lit.
- 9) A, B and C can do a work in 36, 54 and 72 days respectively. They started working together but A left 8 days before the completion of the work while B left 12 days before the completion. Then the number of days for which C worked is ?
 - i) 21
 - ii) 28
 - iii) 26
 - iv) 24

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- 10) If the wages of 6 men for 15 days be Rs. 1400 then the wages of 9 men for 12 days will be?
- i) Rs. 1680
 - ii) Rs. 1840
 - iii) Rs. 1050
 - iv) Rs. 1600

Q.2 Solve the following questions :

(10)

- 1) A cistern is filled in 6 hours and it takes 8 hours when there is a leak in the bottom. If the cistern is full, in what times shall the leak empty it?
- i) 48 hours
 - ii) 36 hours
 - iii) 24 hours
 - iv) 17 hours
- 2) A train 110 m long travels at 60 kmph. How long does it takes to cross another train 170 m long running at 54 kmph in the same direction.
- i) 158 m
 - ii) 170 m
 - iii) 155 m
 - iv) 168 m
- 3) At what time between 5 o'clock and 6 o'clock do the hands of a clock be opposite to each other?
- i) 5.50
 - ii) 5.55
 - iii) 6.00
 - iv) 6.05
- 4) A TV was sold at 30% profit, if it was sold for Rs. 1000 more 40% would have been gained then the cost price of TV is?
- i) 10,000
 - ii) 15,000
 - iii) 20,000
 - iv) 30,000
- 5) In what time does a sum of money becomes 4 times at the simple interest rate of 10% p.a.?
- i) 30
 - ii) 45
 - iii) 60
 - iv) 90
- 6) Find the compound interest on Rs. 8,000 for 4 year at 6% p.a.?
- i) 3578.5
 - ii) 2099.8
 - iii) 1678.7
 - iv) 1234.5
- 7) In how many ways can 7 plus signs and 5 minus signs be arranged in a row so that no 2 minus signs are together?
- i) 50
 - ii) 56
 - iii) 40
 - iv) 46
- 8) In tossing three coins at a time, the probability of getting at most one tails is:
- i) $\frac{3}{8}$
 - ii) $\frac{7}{8}$
 - iii) $\frac{1}{2}$
 - iv) $\frac{1}{8}$

Percentage of literacy rate in five states is given

State	1990	1991	1992	1993	1994	1995
K	40	40	41	41.5	42	42
L	42	44	46	48	50	52
M	43	44	48	51	54	60
N	52	52.5	52.5	53	53	53.5
O	39	40	48	55	62	70

- 9) Which state hasn't shown increase in its literacy rate in 1990-1991?
- i) L
 - ii) M
 - iii) K
 - iv) O
- 10) Which state has exhibited tremendous increase in its literacy rate during 1990-1995?
- i) K
 - ii) L
 - iii) N
 - iv) O

Q.3 A) Read the sentence and identify the part which has error and write correct (05)
answer of it. If there is no error, mark the answer as (E)

- 1) If he worked hard he would have
A B
got through the exam which he wrote recently
C D
- 2) She told me that she will meet me
A B
the next day if she had time
C D
- 3) He usually goes to college
A B
by walk because he stays close by
C D
- 4) After he returned back from U.S.
A B
he has started his own factory
C D
- 5) The students work
A B
meticulously throughout the year doesn't they
C D

Q.3 B) In each of the sentences, one word is given in bold and four options are given (05)
select the word or phrase nearest in meaning to the word given in bold.

- 1) The soldier received the Bravery Award for his **exemplary** display of courage during the war.
i) New ii) Strange
iii) Abnormal iv) Praiseworthy
- 2) Mr. Kumar **was fired** for continually coming late to the office
i) Beaten ii) Scolded
iii) Abused iv) Dismissed
- 3) A **conscientious** worker is always admired by his colleagues.
i) Obedient ii) Sincere
iii) Skillful iv) Careful
- 4) My students in the laboratory are rather **inquisitive** about the language learning softwares.
i) Sensitive ii) Careful
iii) Curious iv) Anxious
- 5) The automobile industry depends on **indigenous** technology
i) Sophisticated ii) Ancient
iii) Alien iv) Native

- Q.4 a) Differentiate between Soft Skills and Hard Skills. How do these two skills sets complement each other in personal and professional development? (05)
b) Discuss the attributes of a good leader. What qualities and behaviors are commonly associated with effective leadership? (05)

OR

- Q.4 a) Define emotional intelligence (EI) and explain its importance in personal and professional lives. (05)
b) Discuss the importance of conducting a SWOT analysis for an individual's career development. (05)

- Q.5 a) Explain the importance of LSRW skills in effective communication. How do these skills complement each other in the communication process? (05)
b) Discuss the dos and don'ts of email writing etiquettes in a professional context. (05)

OR

- Q.5 a) What preparation a candidate has to do before the interview so that he can perform well during the interview? (05)
b) Mention the tips and guidelines for building an effective resume or CV. (05)

- Q.6 a) Differentiate between social and office etiquette. How does professional behaviour in social setting, reflect an individual's character and values. (05)
b) How can CSR initiatives benefit both companies and society? Give an example. (05)

OR

- Q.6 a) How do the values contribute to effective leadership and team management in the firm? (05)
b) Explain the terms diversity and inclusion. How can diversity enhance creativity and innovation within a company? (05)

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