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Code No. : 13156 S N/O

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

B.E. III-Semester Supplementary Examinations, August-2023

Skill Development Course-II (Aptitude-I)

(Common to all Branches)

Time: 2 hours

Max. Marks: 40

Note: Answer ALL questions in Part-A and any FIVE from Part-B
Calculator are not permitted for this test.

Part-A (5 × 1 = 5 Marks)

Q.No.	Stem of the question	M	L	CO	PO
1.	The number obtained by interchanging the two digits of a two-digit number is more than the original number by 27. If the sum of the two digits is 13, what is the original number? A)63 B) 74 C) 85 D) 58 E) None of these	1	1	1	12
2.	The sum of the present ages of a father and his son is 60 years. Five years ago, father's age was four times the age of the son. so now the son's age will be: A. 5 B. 10 C. 15 D. 20	1	2	2	12
3.	A cloth merchant sold half of his cloth at 20% profit, half of the remaining at 20% loss and rest was sold at the cost price. In the total transaction, his gain or loss will be _____ A. 10% gain B. 5% loss C. 10% loss D. 5% gain	1	1	3	12
4.	Pointing to a lady in the photograph Kiran said, "She is the daughter of the daughter of the only son of my grandfather." How is the lady related to Kiran? A. Sister B. Maternal aunt C. Niece D. Cousin E. None of these	1	3	4	12
5.	Two pipes P and Q can fill a tank in 6 hours and 8 hours respectively. If they are opened on alternate hours and if pipe P is opened first, in how many hours, the tank shall be full? A. 10 hrs B. 9.30hrs C. 6.45hrs D. 10.30hrs E. None of these	1	3	5	12
Part-B (5 × 7 = 35 Marks)					
6. a)	i. The digit in unit's place of the product $(7859)^{167}$ is : A. 1 B. 3 C. 7 D. 9 ii. When 335 is added to $5A7$, the result is $8B2$. $8B2$ is divisible by 3. What is the largest possible value of A ? A. 8 B. 2 C. 1 D. 4 iii. The digit in unit's place of the product $(2153)^{598}$ is : A. 1 B. 3 C. 7 D. 9 E. None of these iv. The product of two numbers is 211428 and their LCM is 3356. Find their GCM? A. 72 B. 48 C. 36 D. 63	4	2 1 3 3	1	12

b)	<p>i. Find the last digit of the product $7^{23} \times 3^{13}$? A. 6 B. 9 C. 8 D. 2 E. 1</p> <p>ii. The sum of two numbers is 29 and the difference of their squares is 145. The difference between the numbers is— A. 13 B. 5 C. 8 D. 11</p> <p>iii. Find the number of zeroes at the end of $100!$? A. 24 B. 24 C. 273 D. None of these E. 38</p>	3	2 1 3	1	12
7. a)	<p>i. 12 clerks can clear 600 files in 20 days. Then how many clerks are required to complete 400 files in 10 days? A. 14 B. 12 C. 16 D. 15 E. 18</p> <p>ii. The ratio of monthly income of A and B in the ratio is 6:5 and the ratio of their expenditure is 9:7. If each saves Rs.1500. Then the sum of their salary is A. 11,000 B. 9,000 C. 1,0000 D. 12,000</p> <p>iii. The average age of 24 boys and their teacher is 15 years. When the teacher's age is excluded, the average age decreases by 1 year. The age of the teacher is A. 39 years B. 38 years C. 41 years D. 40 years</p> <p>iv. The average age of A and B is 20 years. If A is to be replaced by C, the average would be 19 years. The average age of C and A is 21 years. The ages of A, B and C in order (in years) are A. 18, 20, 22 B. 18, 22, 20 C. 22, 20, 18 D. 22, 18, 20</p>	4	1 2 3 4	2	12
b)	<p>i. A started a business with Rs.32,000 after 4 months B joins with the business by investing Rs.48,000. At the end of the year, in what ratio should share their profit ? A. 8:7 B. 7:6 C. 5:7 D. 9:5</p> <p>ii. In a mixture 60 litres, the ratio of milk and water 2 : 1. If this ratio is to be 1 : 2, then the quantity of water to be further added is: A. 20 litres B. 30 litres C. 40 litres D. 60 litres</p> <p>iii. A, B and C divide Rs 4200 among themselves in the ratio 7 : 8 : 6. If Rs 200 is added to each of their shares, what is the new ratio in which they will receive the money? A. 9 : 8 : 7 B. 8 : 9 : 7 C. 8 : 9 : 8 D. 9 : 10 : 8</p>	3	2 2 2	2	12
8. a)	<p>i. The profit earned after selling a wrist watch for ` 5800 is twice the loss incurred after selling the wrist watch for ` 4300. What is the cost price of the wrist watch? A. 5300 B. 5100 C. 4900 D. 4800 E. None of these</p> <p>ii. Sameer sold an article Rs.460 and earned a profit of 15%. At what price should it have been sold so as to earn a profit of 20%? A. 465 B. 480 C. 498 D. 485 E. None of these</p>	4	3 2 4 1	3	12

	<p>iii. Fresh fruit contains 68% water and dry fruit contains 20% water. How much dry fruit can be obtained from 100 kg of fresh fruits?</p> <p>A. 20 B. 30 C. 40 D. 50</p> <p>iv. A man spends 35% of his income on food, 25% on children's education and 80% of the remaining on house rent. What percent of his income is he left with?</p> <p>A. 6% B. 8% C. 10% D. 12%</p>				
b)	<p>i. Naresh purchased a TV set for ` 11,250 after getting discount of 10% on the labeled price. He spent ` 150 on transport and ` 800 on installation. At what price should it be sold so that the profit earned would be 15%?</p> <p>A. 12,937.50 B. 14,030 C. 13,450 D. 15,467.50</p> <p>E. None of these</p> <p>ii. The population of a town is 30000. During first year the population increased by 15%. During second year the population increased by 10%. During third year the population increased by 10%. Find the population after 3 years.</p> <p>A. 32800 B. 41745 C. 54895 D. None</p> <p>iii. On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is:</p> <p>A.Rs.45 B.Rs.50 C.Rs.55 D.Rs.60</p>	3	2 4 3	3	12
9. a)	<p>i. In a certain code, DANGER is written as BCLICT. In the same code, ORACLE will be written as?</p> <p>A. MTYEJG B. MPYEJG C. MTXCJG D. GJEYTM</p> <p>E. none of these</p> <p>ii. In a certain code language blue is called green, green is called yellow, yellow is called white, white is called red, red is called purple, purple is called orange. Then what is the color of milk ?</p> <p>A. White B. Red C. Green D. Orange E. Purple</p> <p>iii. If FISH is written as EHRG in a certain code, how would JUNGLE be written in that code?</p> <p>A. ITMFKD B. ITNFKD C. KVOHMF D. TIMFKD</p> <p>E. None of these</p> <p>iv. In a certain code, TWINKLE is written as SVHOJKD then how would FILTERS be written in that code?</p> <p>A. EHKSDQR B. EHKUDQR C. EGHUDQR D. GJMSFST</p> <p>E. None of these</p>	4	3 2 3 3	4	12
b)	<p>Directions: P is the daughter of Q. R has only two children – P and S. T is the brother of U. S is married to V. R has only two daughters. W is the mother of Q. T is married to P. W is married to X. R is the son of Y.</p> <p>i. Who among the following is the father of Q?</p> <p>A. W B. Y C. R D. X E. None of these</p>	3	3& 4	4	12

	<p>ii. Who among the following is the sister-in-law of U? A. S B. P C. Q D. W E. Y</p> <p>iii. How is R related to T? A. Father-in-law B. Mother-in-law C. Father D. Mother E. Brother</p>				
10. a)	<p>i. 3 men or 5 women can do a work in 12 days. How long will 6 men and 5 women take to do it? A.6 B.5 C.4 D.3</p> <p>ii. A can do a piece of work in 6 days and B alone can do it in 8 days. A and B undertook to do it for Rs. 640. With the help of C, they finished it in 3 days. How much is paid to C? A. Rs. 75 B. Rs. 80 C. Rs. 120 D. Rs. 160</p> <p>iii. If 10 cows can eat 10 bags of grain in 10 days, how many days will it take for 1 cow to eat 1 bag of grain? A. 1/100 B. 1/10 C. 1 D. 10 E. 100</p> <p>iv. 18 women can complete a work in 12 days and 12 men can complete the same work in 9 days. In how many days will 8 men and 8 women complete that work? A. 9 B. 6 C. 12 D. 8 E. None of these</p>	4	4 3 2 3	5	12
b)	<p>i. One pipe can fill a tank 4 times as fast as another pipe. If together the two pipes can fill the tank in 15 minutes, then the slower pipe alone will be able to fill the tank in: A. 75min B. 60min C. 55min D. 45min E. None of these</p> <p>ii. A group of men decided to do a job in 4 days, but 20 men dropped out every day. Find the number of men who initially decided to do the job, if job was completed in 7 days? A. 70 B. 110 C. 140 D. 120 E. None of these</p> <p>iii. A cistern can be filled by a tap in 4 hours while it can be emptied by another tap in 9 hours. If both the taps are opened simultaneously, then after how much time will the cistern get filled? A. 5 hrs B. 6.5 hrs C. 7.2 hrs D. 9.1 hrs</p>	3	3 4 4	5	12
11. a)	<p>i. When 2^{31} is divided by 5 the remainder is A. 4 B. 3 C. 2 D. 1</p> <p>ii. A number when divided by 899 gives a remainder 63. If the same number is divided by 29, the remainder will be : A. 10 B. 5 C. 4 D. 2</p> <p>iii. Find the unit digit in the product $(4387)^{245} \times (621)^{72}$ A. 1 B. 2 C. 5 D. 7</p> <p>iv. The digit in unit's place of the product $(2793)^{693} \times (3486)^{899}$: A. 6 B. 2 C. 7 D. 4 E. None of these</p>	4	3 2 2 3	1	12

b)	<p>i. A merchant has 100 kg of sugar, part of which he sells at 7% profit and the rest at 17% profit. If he gains 10% on the whole, the amount sold at 7% profit is A. 40 kg B. 35 kg C. 70 kg D. 60 kg</p> <p>ii. The salaries of A, B, and C are in the ratio of 1 : 2 : 3. The salary of B and C together is Rs. 6000. By what percent is the salary of C more than that of A? A. 100 % B. 200% C. 300% D. 600%</p> <p>iii. In a zoo, there are rabbits and pigeons. If heads are counted, there are 340 heads and if legs are counted there are 1060 legs. How many pigeons are there? A. 120 B. 150 C. 170 D. 180</p>	3	3 1 2	2	12
12. a)	<p>i. On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is A. Rs. 55 B. Rs. 60 C. Rs. 65 D. Rs. 70</p> <p>ii. A trader buys some goods for Rs.150. If the overhead expenses be 12% of cost price, then at what price should it be sold to earn 10%? A. Rs. 184.80 B. Rs. 185.80 C. Rs. 187.80 D. Rs. 188.80</p> <p>iii. Applied to a bill for Rs. 50000. Find the difference between a discount of 25 % to that of two successive discounts of 20 % and 10 %? A. Rs. 2250 B. Rs. 1500 C. Rs. 1750 D. Rs. 1800 E. None of these</p> <p>iv. Akshara decided to donate 15% of her salary to an orphanage. On the day of donation she changed her mind and donated Rs.4860 which was 90% of what she had decided earlier. How much is Akshara's salary (approx.)? A. Rs. 32000 B. Rs. 30000 C. Rs. 36000 D. Rs. 42000 E. None of these</p>	4	2 2 3 4	3	12
b)	<p>i. Rakesh introduced Priya as the sister of the father of my mother's son. How is Priya related to Rakesh? A. Aunt B. sister C. sister-in-law D. wife E. None of these</p> <p>ii. 12 buckets of water fill a tank when the capacity of each tank is 13.5 liters. How many buckets will be needed to fill the same tank, if the capacity of each bucket is 9 liters? A. 10 B. 14 C. 18 D. 22</p> <p>iii. Pipe A can fill a tank in 5 hours, pipe B in 10 hours and pipe C in 30 hours. If all the pipes are open, in how many hours will the tank be filled? A. 2 B. 3 C. 4 D. 5</p>	3	2 3 3	4	12

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

i)	Blooms Taxonomy Level – 1	20%
ii)	Blooms Taxonomy Level – 2	40%
iii)	Blooms Taxonomy Level – 3 & 4	40%
