Code No. : 16114 (SS)

VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD
B.E. (CBCS) VI-Semester Main Examinations, January-2021
Finishing School-IV (Soft Skills)

Time: 1 ½ hours

Max. Marks: **40**

Note: Answer any TWO questions in Part-A and any THREE from Part-B

Part-A (2 × 2 = 04 Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	Directions: Read the following and answer the questions that follow.				
	The Kalinga Express started from Patna to Tata at 7 p.m. at a speed of 60 km/h. Another train, Rajdhani Express, started from Tata to Patna at 4 a.m. next morning at a speed of 90 km/h. The distance between Patna to Tata is 800 km.				
	i. How far from Tata will the two trains meet? a. 164 km b. 156 km c. 132 km d. 128 km	1	3	1	12
	ii. At what time will the two trains meet? a. 5 : 32 a.m. b. 5 : 28 a.m. c. 5 : 36 a.m. d. 5 : 44 a.m.	1	3	1	12
2.	i. Statement: All tables are sofa. All sofa are beds. All beds are mattresses. Conclusion: I. Some mattresses are sofa. II. Some beds are tables. III. Some mattress are tables. a. Only I & II are followed. b. Only I & III are followed. c. Only II & III are followed. d. All are followed. e. None is followed	1	2	2	12
	ii. Statements: All doors are roads. No road is fruit. Some flowers are doors. Conclusions: I. Some fruits are doors. II. Some fruits are flowers. III. Some roads are flowers. IV. No fruit is flower. a. Only either II or III, and IV follow b. Only either II or IV, and III follow c. Only either II or IV, and I follow d. Only either II or IV follows e. All follow	1	2	2	12
3.	i. Amit started walking from his home. He walked 5 m from his home towards east and took right and walked 7 m. He then took left and walked 3 m and again took left and walked 22 m and stopped at his office. Find the shortest distance between his home and his office? a. 17 m b. 11√3m c. 12√2 m d. 15m	1	2	3	12
	ii. A travels 35 km towards west, takes a right turn and travels 50 km more. Next, she takes another right turn and travels 35km in that direction. How far is she from her original position? a. 75km b. 45km c. 90km d. 50km	1	1	3	12

4.	i.	Two cones have their heights in the ratio 1:3 and the radii of their bases in the ratio 3:1. Find the ratio of their volumes? a. 3:1 b. 2:1 c. 4:1 d. 5:1 e. None of these	1	2	4	12
	ii.	The length of a rectangle is increased by 60%. By what percent would the width have to be decreased to maintain the same area? a. 60% b. 37.5% c. 50% d. 40%	1	3	4	12
5.	i.	The letters of the word PASTE are written in all possible orders and these words are written out as in a dictionary. Then the rank of the word SPATE is: a. 432 b. 86 c. 59 d. 446	1	4	5	12
	ii.	How many 6-digit even numbers can be formed from the digits 1, 2, 3, 4, 5, 6 and 7 so that the digits should not repeat and the second last digit is even? a. 720 b. 320 c. 2160 d. 1440	1	3	5	12

Part-B (3 × 12 = Marks)

6.	a)	i.	A motorboat whose speed in still water is 10 km/h went 91 km downstream and then returned to its starting point. Calculate the speed of the river flow if the round trip took a total of 20 hours. a. 3 km/h b. 4 km/h c. 6 km/h d. 8 km/h	1	3	1	12
		ii.	The length of the minutes hand of a clock is 8 cm. Find the distance travelled by its outer end in 15 minutes. a. 4pi cm b. 8pi cm c. 12pi cm d. 16pi cm	1	1	1	12
		iii.	Two trains each having a length of 200 meters moving in opposite direction crossed each other in 10 seconds. If first train crossed a 250 metre long platform in 30 seconds, then the ratio of their speeds is: a. 1 : 3 b. 3 : 5 c. 2 : 3 d. 4 : 3 e. None of these	1	3	1	12
		iv.	A lazy man can row upstream at 16 km/h and downstream at 22 km/h. Find the man's rate in still water (in kmph). a. 19 b. 14 c. 17 d. 18	1	2	1	12
		v.	A car travels 1/3 of the distance on a straight road with a velocity of 10 km/h, the next 1/3 with a velocity of 20 km/h and the last 1/3 with a velocity of 60 km/h. What is the average velocity of the car for the whole journey? a. 18 km/h b. 10 km/h c. 20 km/h d. 15 km/h	1	4	1	12
		vi.	Mr.Murthy walking at a speed of 20 km/h reaches his college 10 minutes late. Next time he increases his speed by 5 km/h, but finds that he is still late by 4 minutes. What is the distance of his college from his house? a. 20 km b. 6 km c. 12 km d. None of these	1	4	1	12
	b)	i.	In a stream that is running at 2 km/h, a man goes 10 km upstream and comes back to the starting point in 55 minutes. Find the speed of the man in still water. a. 20 km/h b. 22 km/h c. 24 km/h d. 28 km/h	1	3	1	12
		ii.	A man can row 30 km upstream and 44 km downstream in 10 hours. It is also known that he can row 40 km upstream and 55 km downstream in 13 hours. Find the speed of the man in still water. a. 4 km/h b. 6 km/h c. 8 km/h d. 12 km/h	1	4	1	12
		iii.	Two trains 200 m and 160 m long, run at the rate of 60 km/h and 100 km/h respectively on parallel rails. How long will it take a man sitting in the second train to pass the first train if they run in the opposite direction? a. 4.4 seconds b. 4.5 seconds c. 3.24 seconds d. 4 seconds e. None of these	1	3	1	12

iv.	Find the time taken by two trains, one 180 m long and the other 270 m long, to cross each other, if they are running at speeds of 46 kmph and 54 kmph respectively. Consider both possible cases of motion.				1	3	1	12

a. 202.5, 16.2 sec b. 160, 100 sec c. 108.45, 15.6 sec

d. 204.5, 14.8 sec	1 3 1 12

v. A train crosses a platform and a tunnel in 18 and 32 seconds respectively. The speed of the train and length of the train are 45 kmph and 140 metres respectively. Find the length of platform is approximately what percent less than the length of tunnel?

a. 72% b. 67% c. 82% d. 61% e. 51 %

	1 3 1 12

vi. A man can row 7 km/hr in still water. If the river is running at 3 km/hr, it takes 6 hours more in upstream than to go downstream for the same distance. How far is the place?

a. 48 km b. 36 km c. 42 km d. 40 km e. None of these

7. a) Directions: A, B,C ,D ,E, F, G, H & I are sitting around a circle facing the center. D is third to the left of H, who is second to the left of B. A is fourth to the left of E, who is second to the right of D. C is third to the right of H. I is not the nearest neighbor of D. G is not the nearest neighbor of E.

i. Who is fourth to the left of F?				

a. E b. C c. A d. insufficient data e. None of these

1	4	2	12

ii. Who is second to the right of G?

a. F b. E c. C d. Insufficient data e. None of these `1 4 2 12`

iii. What is the position of C with respect to E?
1. Fifth at right
2. Fifth at left
3. Fourth at right
4. Fourth at left

`1 4 2 12`

a. Only (1) b. Only (4) c. Only (1) and (2) d. Only (2) and (3) e. None of these

iv. Who is fourth to the left of G?

a. B b. H c. I d. E e. None of these `1 4 2 12`

v. In which of the following pairs, the first person is sitting at the immediate right of the second person?

a. DF b. FE c. GD d. AG e. None of these `1 4 2 12`

vi. Who is at the immediate left of E?

a. D b. F c. C d. Insufficient data e. None of these `1 4 2 12`

b) i. Statements:
Some nails are horses.
All horses are tablets.
All tablets are crows.
Conclusions:
I. Some crows are nails.
II. Some tablets are nails.
III. Some crows are horses.
a. Only I follows b. Only I and II follow c. Only I and III follow
d. Only II and III follow e. All I, II and III follow

`1 3 2 12`

ii. Statements:
All sweets are fruits.
No fruit is pencil.
Some pencils are glasses.
Conclusions:
I. Some glasses are sweets.
II. Some pencils are sweets.
III. No glass is sweet.
a. Only I follows b. Only II follows c. Only III follows d. Only either I or III follows e. None of these

`1 3 2 12`

Directions: The following questions are based on the information given below:
There is a cuboid whose dimensions are 4 x 3 x 3 cm.
The opposite faces of dimensions 4 x 3 are coloured yellow.
The opposite faces of other dimensions 4 x 3 are coloured red.
The opposite faces of dimensions 3 x 3 are coloured green.
Now the cuboid is cut into small cubes of side 1 cm.

iii.	How many small cubes will have only two faces coloured ? a. a. 12 b. 24 c. 16 d. 12	1	2	2	12
iv.	How many small cubes have three faces coloured ? a. a. 24 b. 20 c. 16 d. 8	1	2	2	12
v.	How many small cubes will have no face coloured ? a. a. 1 b. 2 c. 4 d. 8	1	2	2	12
vi.	How many small cubes will have only one face coloured ? a. a. 10 b. 12 c. 14 d. 18	1	2	2	12

8. a)
i.	A watch which gains uniformly, is 5 min, slow at 8 o'clock in the morning on Sunday and it is 5 min 48 sec. fast at 8 p.m. on following Sunday. When was it correct? a. 7pm on Wednesday b. 20 min past 7pm on Wednesday c. 15min past 7pm on Wednesday d. 8pm on Wednesday	1	4	3	12
ii.	A person goes out home and returns after sometime. He notices during his absence clock's minute hand rotates 288°. How much does clock's hour hand rotate in that duration? a. 56° b. 67° c. 24° d. 38° e. None of these	1	2	3	12
iii.	At 3.40, the hour hand and the minute hand of a clock form an angle of: a. 110 degrees b. 120 degrees c. 130 degrees d. 132 degrees	1	3	3	12
iv.	How many times in a day, are the hands of a clock in straight line but opposite in direction? a. 20 b. 19 c. 22 d. 35 e. none of the above	1	2	3	12
v.	At what time between 4 and 5 o'clock will the hands of a watch point in opposite directions? a. 54 past 4 b. (53 + 7/11) past 4 c. (54 + 8/11) past 4 d. (54 + 6/11) past 4	1	3	3	12
vi.	The angle between the minute hand and the hour hand of a clock when the time is 8.30, is: a. 60 b. 75 c. 85 d. 90	1	2	3	12

b)
i.	If every seconds Saturday and all Sundays are holidays in a 30 days month beginning on Saturday, then how many working days are there in that month ? (Month starts from Saturday) a. 25 b. 22 c. 24 d. 23	1	2	3	12
ii.	On what dates of July.2004 did Monday fall? a. 6th,10th,21st,30th b. 12th,7th,19th,28th c. 5th,10th,24th,17th d. 5th, 12th, 19th, 26th	1	1	3	12
iii.	If Feb 12th, 1986 falls on Wednesday then Jan 1st,1987 falls on which day? a. Wednesday b. Tuesday c. Thursday d. Friday	1	2	3	12
iv.	The day on 5th March of a year is the same day on what date of the same year? a. 5th Apr b. 5th Mar c. 5th Nov d. 5th Oct	1	1	3	12
v.	If the day before yesterday was Thursday, when will Sunday be? a. Tomorrow b. Today c. Two days after today d. Day after tomorrow	1	1	3	12
vi.	Harshitha went to the movies nine days ago. She goes to the movies only on Thursday. What day of the week is today? a. Wednesday b. Tuesday c. Thursday d. Saturday	1	1	3	12

9.	a)	i.	In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of the ground is: a. 75 cu m b. 750 cu. m c. 7500 cu. m d. 75000 cu. m	1	2	4	12
		ii.	Find the number of bricks, each measuring 24 cm×12 cm × 8 cm, required to construct a wall 24 m long, 8m high and 60 cm thick if 10% of the wall is filled with mortar? a. 450 b. 4500 c. 45000 d. 450000	1	3	4	12
		iii.	The area of a circle is equal to the area of a rectangle whose perimeter is equal to 69m and whose breadth is equal to 13.5m. What is the area of the circle? a. 278.5 sq m b. 281.5 sq m c. 283.5 sq m d. 287.5 sq m e. 2965.5 sq m	1	3	4	12
		iv.	The area of a floor to be carpeted is 30 square metres. If the carpet is purchased at the rate of Rs. 32 per metre of total cost comes to be Rs. 640, then the width of carpet is: a. 1 metre b. 1.5 metre c. 2 metres d. 2.5 metres e. None of these	1	2	4	12
		v.	Area of circle is equal to the area of a rectangle having perimeter of 50 cms and length more than the breadth by 3 cms. What is the diameter of the circle? a. 7 cms b. 21 cms c. 28 cms d. 14 cms e. None of these	1	2	4	12
		vi.	A spherical lead ball of radius 10 cm is melted and small lead balls of radius 5 mm are made. The total number of possible small lead balls s(Take $\pi = 22/7$) a. 8000 b. 400 c. 800 d. 125	1	3	4	12
	b)	i.	If $\log_4{}^X + \log_4{}^{(1/6)} = 1/2$ then the value of X is? a. 18 b. 24 c. 16 d. 12	1	3	4	12
		ii.	A horse a tethered to one corner of a rectangular grassy field 40 m by 24 m with a rope 14 m long. Over how much area of the field can it graze? a. .154 cm 2 b. 308 m 2 c. 150 m 2 d. None of these	1	3	4	12
		iii.	If log 2 = 0.30103, the number of digits in 2^{64} is: a. 18 b. 19 c. 20 d. 21	1	4	4	12
		iv.	Find the value of x which satisfies the given expression [$\log_{10}{}^2$ + log (4x + 1) = log (x + 2) + 1] a. 6 b. 7 c. - 6 d. – 9	1	4	4	12
		v.	The length of a rectangle is 20% more than its breadth. What will be the ratio of the area of this rectangle to the area of a square whose side is equal to the breadth of the rectangle? a. 5 : 6 b. 6 : 5 c. 8 : 3 d. Data inadequate	1	3	4	12
		vi.	The area of a rectangle is 150 sq. metre. On increasing its breadth by 2 metre and decreasing its length by 5 metre, the area is decreased by 30 sq. metre. What will be the perimeter of a square whose side is equal to the length of the rectangle? (in metre). a. 60 b. 55 c. 45 d. 52	1	4	4	12
10.	a)		**Directions:** A bag contains 4 white and 2 black balls. Another contains 3 white and 5 black balls. If one ball is drawn from each bag, find the probability that				
		i.	both are white a. 1/3 b. 2/3 c. 1/4 d. ¾	1	3	5	12
		ii.	both are black a. 3/24 b. 1/24 c. 3/12 d. 5/24	1	3	5	12
		iii.	one is white and one is black a. 13/24 b. 15/24 c. 11/21 d. ½	1	3	5	12
			Directions: There are 25 points on a plane of which 7 are collinear. Now solve the following:				

		iv. How many straight lines can be formed? a. 7 b. 300 c. 280 d. None of these	1	3	5	12
		v. How many triangles can be formed from these points? a. 453 b. 2265 c. 755 d. None of these	1	3	5	12
		vi. How many quadrilaterals can be formed from these points? a. 5206 b. 2603 c. 13015 d. None of these	1	3	5	12
b)		i. A child has four pockets and three marbles. In how many ways, the child can put the marbles in the pockets? a. 12 b. 64 c. 256 d. 60	1	4	5	12
		ii. There is a 7-digit telephone number with all different digits. If the digit at extreme right and extreme left are 5 and 6 respectively, find how many such telephone numbers are possible? a. 120 b. 100000 c. 6720 d. 30240	1	4	5	12
		iii. There are 10 questions in a question paper. In how many ways, a student can solve these questions, if he solves one or more questions? a. 1024 b. 1025 c. 1023 d. 1000	1	3	5	12
		iv. A bag contains 5 red, 4 white, and 6 green balls. Three balls are drawn at random with replacement. What is the probability of geeting utmost one color.? a. 27/125 b. 64/125 c. 64/3375 d. 1/27 e. 3/25	1	3	5	12
		v. In a party, there are 15 persons and every person shakes hand with every other person. What will be the total number of handshakes? a. 105 b. 120 c. 140 d. 210 e. None of these	1	3	5	12
		vi. On a shelf there are 4 books on Economics, 3 books on Management and 4 books on Statistics. In how many different ways can the books be arranged so that the books on Economics are kept together? a. 967680 b. 120960 c. 5040 d. 40320	1	3	5	12
11. a)		i. The two trains of lengths 400 m, 600 m respectively, running at same directions. The faster train can cross the slower train in 180 sec, the speed of the slower train is 48 kmph. Then find the speed of faster train ? a. 68 kmph b. 52 kmph c. 76 kmph d. 50 kmph	1	3	1	12
		ii. A man, in a moving bus, counted electric poles which are stand on the side of the road. The distance between each two electric poles is 44 meter and speed of the bus is 55 km/hr. find the number of electric poles counted in 4 hr ? a. 5001 b. 4001 c. 5461 d. 3001 e. 1005	1	2	1	12
		iii. Two cyclists do the same journey by travelling at 9 km/hr and 10 km/hr respectively. Find the distance travelled when one takes 32 minutes longer than the other. a) 44 km b) 48 km c) 50 km d) 46 km	1	3	1	12
		iv. A train leaves Rameswaram for Chennai at 2:15 p.m. and travels at the rate of 50 kmph. Another train leaves Chennai for Rameswaram at 1:35 p.m. and travels at the rate of 60 kmph. If the distance between Chennai and Rameswaram is 590 km at what distance from Rameswaram will the two trains meet? a. 200 km b. 300 km c. 250 km d. 225 km	1	3	1	12
		v. A boat goes 40 km upstream in 8 h and a distance of 49 km downstream in 7 h. The speed of the boat in still water is a. 5 km/h b. 5.5 km/h c. 6 km/h d. 6.5 km/h	1	3	1	12
		vi. A motorboat whose speed in still water is 15 kmph goes 30 km downstream and comes back in a total 4 hours 30 min. Determine the speed of the stream. a. 2 kmph b. 3 kmph c. 4 kmph d. 5 kmph	1	3	1	12

, b)	i.	Which symbol will be on the face opposite to the face with symbol * ?		1	1	2	12

a. @　　b. $　　c. 8　　d. +

ii.	How many points will be on the face opposite to in face which contains 2 points?	1　1　2　12

a. 1　　b. 4　　c. 5　　d. 6

iii. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.　　　1　2　2　12

Problem Figures:　　　　　　　**Answer Figures:**

(A)　(B)　(C)　(D)　(E)　　　(1)　(2)　(3)　(4)　(5)

a. 1　　b. 2　　c. 3　　d. 4　　e. 5

Directions: A, B, C, D, E, F, G and H are eight persons sitting in a circle facing the center but not necessarily in the same order. B is second to the right of D. G is third to the right of E. C is second to the left of A, who is second to the left of F, who is not an immediate neighbour of B and D.

iv. Who among the following sits between F and G?　　　1　3　2　12

　　a. E　　b. H　　c. A　　d. C　　e. None of these

v. Who among the following sits third to the right of C?　　　1　3　2　12

　　a. E　　b. F　　c. A　　d. H　　e. None of these

vi. Who sits on the immediate right of H?　　　1　3　2　12

　　a. B　　b. A　　c. G　　d. F　　e. Cannot be determined

12.　Answer any *two* of the following:

a)　i. A clock is set right at 5 a.m. The clock loses 16 minutes in 24 hours. What will be the true time when the clock indicates 10 p.m. on 4th day?　　　1　3　3　12
　　a. 11pm　　　b.12pm　　　c.1pm　d. 2pm

ii. It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?　　　1　2　3　12
　　a. Monday　　b. Friday　　　c. Sunday　　　d. Tuesday

iii. An accurate clock shows 8 o'clock in the morning. Through how may degrees will the hour hand rotate when the clock shows 2 o'clock in the afternoon?　　　1　1　3　12
　　a. 360　b. 180　c. 90　　d. 60

iv. A walks towards North 4 km and turns right and walks 5 km. Then, he turns towards South and walks 2 km. Again, he takes a turn towards West, walks 3 km and stops for a while. Then, he further walks 2 km. what is the, distance of A from his starting point?　　　1　2　3　12
　　a. 16km　b. 12km　　c. 2km　d. 4km

v. Direction: A, B, C, D, E, F, G, H and I are nine houses. C is 2 km East of B. A is 1 km North of B and H is 2 km South of A. G is 1 km West of H while D is 3 km East of G and F is 2 km North of G. I is situated just in middle of B and C while E is just in middle of H and D. What is the distance between E and G?　　　1　3　3　12
　　a. 1 km　b. 4 km　c. 2 km　d. 1 km　e. 1.5 km

	vi.	P is 40 m South-West of Q. R is 40 m South – East of Q. Then, R in which direction of P? a. North b. East c. West d. South e. None of these	1	1	3	12
b)	i.	Find the length of the longest pole that can be placed in a room 12 m long, 8m broad and 9 m high. a. 16 m b. 17 m c. 18 m d. 19 m	1	2	4	12
	ii.	If log 64 = 1.8061, then the value of log 16 will be (approx)? a. 1.9048 b. 1.2040 c. 0.9840 d. 1.4521	1	3	4	12
	iii.	Length of a rectangle is 53 metre, while its breath is 28 metre. Cost of covering it with grass bed is Rs.27 sq meter. Find total expenditure? a. Rs. 40,098 b. Rs. 40,048 c. Rs. 40,058 d. Rs. 40,088 e. None of these	1	2	4	12
	iv.	The curved surface area of a right circular cylinder with radius of base 14 cm and height 10 cm is a. 880 cm2 b. 890 cm2 c. 800 cm2 d. 900 cm2	1	3	4	12
	v.	The radius of a circular wheel is 3.5 m. How many revolutions will it make in travelling 11 km a. 575 b. 620 c. 500 d. 415	1	3	4	12
	vi.	Four circles are drawn from the four corners of a square. The diameter of each circle is equal to the side of the square and hence the adjacent circles touch each other at the midpoint of the side of the square. If the side of the square is 14 cm. Find the area of unoccupied space of the square. a. 48 cm2 b. 148 cm2 c. 154 cm2 d. 42 cm2 e. 48 cm2	1	4	4	12
c)	i.	There are eight chairs marked A to H. Two girls and three boys wish to occupy one chair each. First, the girls chose the chairs from amongst the chairs marked A to D, then the boys selected the chairs from amongst the remaining, marked E to H. The number of possible arrangements is: a. 6C3 × 4C3 b. 4P2 × 4P3 c. 4C3 × 4P3 d. 4C2 × 4C3	1	3	5	12
	ii.	In how many ways can 5 prizes be distributed to 8 students if each student can get any number of prizes? a. 40 b. 5^8 c. 8^5 d. 120	1	3	5	12
	iii.	How many straight lines can be formed from 8 non-collinear points on the X-Y plane? a. 28 b. 56 c. 18 d. 19860	1	3	5	12
	iv.	In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together? a. 830 b. 615 c. 720 d.915	1	2	5	12
	v.	If we have to make 7 boys sit alternately with 7 girls around a round table which is numbered, then the number of ways in which this can be done is a. 2 × (7!)^2 b. 7! × 6! c. 7! × 7! d. None of these	1	3	5	12
	vi.	A bag contains 5 blue and 8 green balls. If three balls are drawn from each draw, the balls being replaced after the first draw. What is the probability that the balls were blue in the first draw and green in the second draw? a. 140/20449 b. 270/20449 c. 270/20994 d. 180/20749 e. 140/20799	1	3	5	12

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

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	30
2	Knowledge on application and analysis (Level-3 & 4)	50
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	20

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