VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD
B.E. (CBCS) IV-Semester Main Examinations, December-2020
Skill Development Course-II –Communication Skills in English-II & Aptitude-I
(Aptitude – I)
(Common to all branches)

Time: 1 hours•

Max. Marks: **30**

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

Part-A (3 × 2 = 6 Marks)

Q. No.		Stem of the question	M	L	CO	PO
1.	a.	The sum of two integers is 10 and the sum of their reciprocals is 5/12. Then the larger of these integers is (a) 2 (b) 4 (c) 6 (d) 8	1	2	1	12
	b.	Two alarm clocks ring their alarms at regular intervals of 50 seconds and 48 seconds. If they first beep together at 12 noon, at what time will they beep again for the first time? (a) 12:10 P.M. (b) 12:12 P.M. (c) 12:11 P.M. (d) None of these	1	3	1	12
2.	a.	The average monthly expenditure of Ravi was Rs.1100 during the first 3 months, Rs.2200 during the next 4 months and Rs.4620 during the subsequent five months of the year. If the total saving during the year was Rs.2100, find Ravi's average monthly income. (a) Rs.1858 (b) Rs.3108.33 (c) Rs.3100 (d) None of these	1	3	2	12
	b.	A mixture of 125 gallons of wine and water contains 20% water. How much water must be added to the mixture in order to increase the percentage of water to 25% of the new mixture? (a) 10 gallons (b) 8.5 gallons (c) 8 gallons (d) 8.33 gallons	1	3	2	12
3.	a.	The salary of Amit is 30% more than that of Varun. Find by what percentage is the salary of Varun less than that of Amit? (a) 26.12% (b) 23.07% (c) 21.23% (d) 27.27%	1	2	3	12
	b.	By selling a casserole for Rs. 960, a man incurs a loss of 4%. At what price should he sell the casserole to gain 16%? (a) Rs. 1160 (b) Rs. 1080 (c) Rs. 1120 (d) None of these	1	2	3	12
4.	a.	If in a certain code language, 'oka peru' means 'fine cloth' ; 'meta lisa' means 'clear water' and 'dona lisa peru' means 'fine clear weather' , which word in that language means 'weather' ? (a) peru (b) oka (c) meta (d) dona	1	2	4	12
	b.	What should come in place of question mark (?) in the following number series. 132, 156, ?, 210, 240, 272 . (a) 196 (b) 182 (c) 199 (d) 204	1	3	4	12
5.	a.	A cistern is normally filled in 6 h but takes 4 h longer to fill because of a leak in its bottom. If the cistern is full, the leak will empty it in how much time? (a) 15 h (b) 16 h (c) 20 h (d) None of these	1	3	5	12
	b.	Running at the same constant rate, 6 identical machines can produce a total of 270 bottles per minute. At this rate, how many bottles could 10 such machines produce in 4 minutes? (a) 648 (b) 1800 (c) 2700 (d) 10800	1	3	5	12

Part-B (3 × 8 = 24 Marks)

6. a)
a. What is the minimum number of identical square tiles required to floor a room measuring 10.8m × 9m?
(a) 64 (b) 72 (c) 30 (d) 48
`1  4  1  12`

b. 1000! ends with _____ number of consecutive zeros
(a) 248 (b) 249 (c) 312 (d) 124
`1  3  1  12`

c. The greatest number which will divide: 4003, 4126 and 4249:
(a) 43 (b) 41 (c) 45 (d) None of these
`1  4  1  12`

d. Find the number of divisors of 544 excluding 1 and 544.
(a) 12 (b) 18 (c) 11 (d) 10
`1  2  1  12`

6. b)
a. On Ashok Marg three consecutive traffic lights change after 36, 42 and 72 seconds respectively. If the lights are first switched on at 9:00 A.M. sharp, at what time will they change simultaneously?
(a) 9 : 08 : 04 (b) 9 : 08 : 24 (c) 9 : 08 : 44 (d) None of these
`1  4  1  12`

b. Find the number of consecutive zeroes at the end of 72!
(a) 17 (b) 9 (c) 8 (d) 16
`1  3  1  12`

c. Find the remainder when 51^203 is divided by 7.
(a) 4 (b) 2 (c) 1 (d) 6
`1  4  1  12`

d. Find the number of divisors of 1420.
(a) 14 (b) 15 (c) 13 (d) 12
`1  2  1  12`

7. a)
a. The average age of a group of men is increased by 5 years when a person aged 18 years is replaced by a new person of aged 38 years. How many men are there in the group?
(a) 3 (b) 4 (c) 5 (d) 6
`1  3  2  12`

b. In a family of 8 males and a few ladies, the average monthly consumption of grain per head is 10.8 kg. If the average monthly consumption per head be 15 kg in the case of males and 6 kg in the case of females, find the number of females in the family.
(a) 8 (b) 7 (c) 9 (d) 15
`1  3  2  12`

c. A cistern contains 50 litres of water. 5 litres of water is taken out of it and replaced by wine. The process is repeated again. Find the proportion of wine and water in the resulting mixture.
(a) 1 : 4 (b) 41 : 50 (c) 19 : 81 (d) 81 : 19
`1  4  2  12`

d. In the Singapore zoo, there are deers and there are ducks. If the heads are counted, there are 180, while the legs are 448. What will be the number of deers in the zoo?
(a) 136 (b) 68 (c) 44 (d) 22
`1  3  2  12`

7. b)
a. The salaries of A, B and C are in the ratio 5:3:2. If the increments of 20%,10%, and 20% are allowed in their salaries, then what will be the new ratio of their salaries?
(a) 22:11:9 (b) 22:10:8 (c) 20:11:8 (d) 20:10:9
`1  3  2  12`

		b.	A, B, C rent a pasture. A puts 10 oxen for 7 months, B puts 12 oxen for 5 months and C puts 15 oxen for 3 months for grazing. If the rent of the pasture is Rs. 175, how much must C pay as his share of rent? (a) Rs. 45 (b) Rs. 50 (c) Rs. 55 (d) Rs. 60	1	3	2	12
		c.	The sum of the ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child? (a) 4 years (b) 10 years (c) 18 years (d) None of these	1	2	2	12
		d.	Simran started a software business by investing Rs. 50,000. After six months, Nanda joined her with a capital of Rs. 80,000. After 3 years, they earned a profit of Rs. 24,500. What was Simran's share in the profit ? (a) 10110 (b) 10500 (c) 12000 (d) 13000	1	3	2	12
8.	a)	a.	Ram sells his goods 25% cheaper than Shyam and 25% dearer than Bram. How much percentage is Bram's goods cheaper than Shyam's? (a) 33.33% (b) 50% (c) 66.66% (d) 40%	1	2	3	12
		b.	The length, breadth and height of a room in the shape of a cuboid are increased by 10%, 20% and 50% respectively. Find the percentage change in the volume of the cuboid. (a) 77% (b) 75% (c) 88% (d) 98%	1	3	3	12
		c.	The population of the village of Gavas is 10,000 at this moment. It increases by 10% in the first year. However, in the second year, due to immigration, the population drops by 5%. Find the population at the end of the third year if in the third year the population increases by 20%. (a) 12,340 (b) 12,540 (c) 1,27,540 (d) 12,340	1	4	3	12
		d.	The population of a village is 5500. If the number of males increases by 11% and the number of females increases by 20%, then the population becomes 6330. Find the population of females in the town. (a) 2500 (b) 3000 (c) 2000 (d) 3500	1	4	3	12
	b)	a.	A man sold two articles for Rs.600 each, on one he gains 15% while on the other he loses 15%. Find profit or loss% (a) 2.25% loss (b) 25% gain (c) No loss No gain (d) None of these	1	2	3	12
		b.	The marked price of a chair is Rs. 1000, which is 20% above the cost price. It is sold at a discount of 10% on the marked price. Find the profit percentage. (a) 16% (b) 9% (c) 8% (d) 10%	1	3	3	12
		c.	Find the single discount equivalent to the discount series of 20%, 10%, 5% respectively? (a) 31% (b) 31.6% (c) 32% (d) None of these	1	3	3	12
		d.	The cost price of 50 mangoes is equal to the selling price of 40 mangoes. Find the percentage profit. (a) 20% (b) 25% (c) 30% (d) None of these	1	2	3	12
9.	a)	a.	Introducing Rajesh, Neha said, his brother's father is the only son of my grandfather. How is Neha related to Rajesh ? (a) Daughter (b) Sister (c) Mother (d) Niece	1	3	4	12

	b.	Introducing a man, a woman said, "His wife is the only daughter of my mother." How is the woman related to that man? (a) Aunt (b) Wife (c) Mother-in-law (d) Maternal Aunt	1	3	4	12
	c.	In a certain code, MONKEY is written as XDJMNL. How is TIGER written in that code ? (a) SHFDQ (b) HFDSQ (c) RSAFD (d) QDFHS	1	3	4	12
	d.	In a certain coding language, if GO = 32 & SHE = 49 then SOME will be equal to ? (a) 56 (b) 58 (c) 62 (d) 64	1	4	4	12
b)	a.	If wall is called window, window is called door, door is called floor, floor is callled roof and roof is callled ventilator, what will a person stand on ? (a) Window (b) Wall (c) Floor (d) Roof	1	2	4	12
	b.	If in a certain code language PREMONITION is written as 68530492904, how will the word MONITOR be written in that code language? (a) 1234567 (b) 3049208 (c) 3029408 (d) 3049258	1	2	4	12
	c.	Find the missing term in the following series. 10000, 11000, 9900, 10890, ?, 10781. (a) 10423 (b) 9801 (c) 10241 (d) 9712	1	3	4	12
	d.	Pointing to a man in a photograph. Asha said. "His mothers only daughter is my mother". How is Asha related to that man? (a) Wife (b) Sister (c) Niece (d) Nephew	1	3	4	12
10. a)	a.	Raju can do a piece of work in 10 days, Vicky in 12 days and Tinku in 15 days. They all start the work together, but Raju leaves after 2 days and Vicky leaves 3 days before the work is completed. In how many days is the work completed? (a) 5 days (b) 6 days (c) 7 days (d) 8 days	1	4	5	12
	b.	A contractor employed 210 men to build a house in 60 days. after 12days, he joined by 70 more men. In how many days will the remaining work be finished (a) 45 days (b) 36 days (c) 27 days (d) 38 days	1	3	5	12
	c.	Two pipes can fill a tank in 10 and 14 minutes respectively and a waste pipe can empty 4 gallons per minute. If all the pipes working together can fill the tank in 6 minutes, what is the capacity of the tank? (a) 120 gallons (b) 240 gallons (c) 450 gallons (d) 840 gallons	1	4	5	12
	d.	Two pipes A & B can fill a tank in 5 min & 10 min respectively. Both the pipes are opened together but after 2 min, pipe A is turned off. What is the total time required to fill the tank? (a) 4 min (b) 6 min (c) 14min (d) 20 min	1	3	5	12
b)	a.	A fort had provision of food for 150 men for 45 days. After 10 days, 25 men left the fort. The number of days for which the remaining food will last, is: (a) 29 (b) 37 (c) 42 (d) 54	1	3	5	12
	b.	A can do a piece of work in 10 days, B in 15 days. They work together for 5 days, the rest of the work is finished by C in two more days. If	1	4	5	12

			they get Rs. 3000 as wages for the whole work, what are the daily wages of A, B and C respectively (in Rs): (a) 200, 250, 300 (b) 300, 200, 250 (c) 200, 300, 400 (d) None of these				
		c.	A and B can do a work in 4 hours and 12 hours respectively. A starts the work at 6 AM and they work alternately for one hour each. When will the work be completed? (a) 4 days (b) 5 days (c) 6 days (d) 7 days	1	2	5	12
		d.	If 2 men and 3 women can do a piece of work in 8 days and 3 men and 2 women in 7 days. In how many days can the work be done by 5 men and 4 women working together? (a) 3 days (b) 6 days (c) 4 days (d) 2 days	1	4	5	12
11. a)		a.	When we multiply a certain two-digit number by the sum of its digits, 405 is achieved. If you multiply the number written in reverse order of the same digits by the sum of the digits, we get 486. Find the number. (a) 81 (b) 45 (c) 36 (d) 54	1	4	1	12
		b.	The sum of the digits of a two-digit number is 10, while when the digits are reversed, the number decreases by 54. Find the changed number. (a) 28 (b) 19 (c) 37 (d) 46	1	2	1	12
		c.	Find the number of zeroes at the end of 1090! (a) 270 (b) 268 (c) 269 (d) 271	1	3	1	12
		d.	A milkman has three different qualities of milk. 403 gallons of 1st quality, 465 gallons of 2nd quality and 496 gallons of 3rd quality. Find the least possible number of bottles of equal size in which different milk of different qualities can be filled without mixing. (a) 34 (b) 46 (c) 26 (d) 44	1	4	1	12
	b)	a.	In what proportion must water be mixed with milk so as to gain 20% by selling the mixture at the cost price of the milk? (Assume that water is freely available) (a) 1 : 4 (b) 1 : 5 (c) 1 : 6 (d) 1 : 12	1	3	2	12
		b.	If a man decides to travel 80 kilometres in 8 hours partly by foot and partly on a bicycle, his speed on foot being 8 km/h and that on bicycle being 16 km/h, what distance would he travel on foot? (a) 20 km (b) 30 km (c) 48 km (d) 60 km	1	4	2	12
		c.	A began a business with Rs. 85,000. He was joined afterwards by B with Rs. 42,500. For how much period does B join, if the profits at the end of the year are divided in the ratio of 3 : 1 ? (a) 4 months (b) 5 months (c) 6 months (d) 8 months	1	3	2	12
		d.	In a management entrance test, a student scores 4 marks for every correct answer and loses 1 marks for every wrong answer. A student attempts all the 100 questions and scores 240 marks. The number of questions he answered correctly was (a) 50 (b) 45 (c) 60 (d) 68	1	3	2	12

12.		Answer any *two* of the following:				
a)	a.	The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 25% profit? (a) Rs. 2000　(b) Rs. 2200　(c) Rs. 2400　(d) Data inadequate	1	3	3	12
	b.	A Camera shop allows a discount of 10% on the advertised price of a camera. What price must be marked on the camera, that costs him Rs. 600, so that he makes a profit of 20%? (a) Rs. 800　(b) Rs. 720　(c) Rs. 750　(d) Rs. 850	1	4	3	12
	c.	In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was : (a) 2500　(b) 2700　(c) 2900　(d) 3100	1	4	3	12
	d.	405 sweets were distributed equally among children in such a way that the number of sweets received by each child is 20% of the total number of children. How many sweets did each child recieve ? (a) 9　(b) 10　(c) 11　(d) 12	1	3	3	12
b)	a.	Find the missing term in the following series.　32, ?, 1024, 2048, 2048. (a) 324　(b) 256　(c) 224　(d) 274	1	3	4	12
	b.	Find the missing term in the following series. 767,　495, 359, 291, 257, ? . (a) 120　(b) 240　(c) 57　(d) 68　(e) 189	1	3	4	12
	c.	If A + B means A is the brother of B;　A / B means A is the father of B and　A * B means A is the sister of B,　which of the following means M is the uncle of P ? (a) N * P / M　(b) M + S / R / P　(c) M / N * P　(d) M + K / T * P (e) None of these	1	4	4	12
	d.	If A + B means A is the son of B ;　A - B means A is the husband of B ;　A x B means A is the sister of B,　then which of the following shows the relation Q is the maternal uncle of P ? (a) P + B - R x Q　(b) P - B + R x Q　(c) P + B x R -Q　(d) P x B - R + Q　(e) None of these	1	4	4	12
c)	a.	Subhash can copy 50 pages in 10 hours; Subhash and Prakash together can copy 300 pages in 40 hours. In how much time can Prakash copy 30 pages? (a) 13 h　(b) 12 h　(c) 11 h　(d) 9 h	1	3	5	12

			L	CO	PO	M
	b.	4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it ? (a) 40 days (b) 36 days (c) 32 days (d) 34 days	1	4	5	12
	c.	Sashi can do a piece of work in 25 days and Rishi can do it in 20 days. They work for 5 days and then Sashi goes away. In how many more days will Rishi finish the work? (a) 10 days (b) 12 days (c) 14 days (d) None of these	1	3	5	12
	d.	If two pipes function simultaneously the reservoir will be filled in 15 hours, one pipe fills the reservoir 5 hours faster than the other. How many hours it takes the second pipe to fill the reservoir? (a) 15 hours (b) 10 hours (c) 12 hours (d) 13 hours	1	4	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)	60%
2	Knowledge on application and analysis (Level-3 & 4)	40%

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