

**UNIVERSAL HUMAN VALUES****(Common to CE, EEE, ME & ECE Branches)****Time: 3 Hours****Max Marks: 70**

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the Question must be answered at one place

		Marks	CO	Blooms Level
<b><u>UNIT-I</u></b>				
1.	a) What is the need for value education in technical and other professional institutions?	7	1	K2
	b) Self-exploration is a process of dialogue between 'what you are' and 'what you really want to be'. Explain?	7	1	K2
<b>(OR)</b>				
2.	a) What do you mean by your natural acceptance?	7	1	K2
	b) What is your present vision of a happy and prosperous life?	7	1	K2
<b><u>UNIT-II</u></b>				
3.	a) "Human being is more than just the Body"- explain.	7	2	K2
	b) 'I' is a conscious unit, while the Body is a material unit. Examine this statement.	7	2	K2
<b>(OR)</b>				
4.	a) What is the qualitative difference between the activities of the Self and those of the Body?	7	2	K2
	b) "I am the seer, doer, and enjoyer. The body is my instrument"- explain.	7	2	K2
<b><u>UNIT-III</u></b>				
5.	a) How is 'trust' the foundation value of relationships?	7	3	K2
	b) What is the difference between respect and differentiation?	7	3	K2
<b>(OR)</b>				
6.	a) Indicate a few feasible steps to promote harmony in society and co-existence with nature.	7	3	K2
	b) What is the difference between intention and competence?	7	3	K2
<b><u>UNIT-IV</u></b>				
7.	a) What do you mean by co-existence? How are units in co-existence being in space?	7	4	K2
	b) What do you mean by mutual fulfilment in nature?	7	4	K2
<b>(OR)</b>				
8.	a) Explain the concept of holistic perception of harmony in existence.	7	4	K2
	b) Write a short note on the recyclability and self-regulation in nature.	7	4	K2
<b><u>UNIT-V</u></b>				
9.	a) Explain the definitiveness of ethical human conduct.	7	5	K2
	b) What do you mean by Universal Human Order?	7	5	K2
<b>(OR)</b>				
10.	a) How do the current world views lead to contradictions and dilemmas in professional life? Explain.	7	5	K2
	b) How does the right understanding provide the basis for the humanistic constitution?	7	5	K2

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Marks CO BTL

**UNIT-I**

- |    |    |  |    |   |    |
|----|----|--|----|---|----|
| 1. | a) | A die is thrown 6 times. If getting an even number is a success, find the probabilities of<br>(i) at least one success (ii) $\leq 3$ success. Using Binomial distribution.   | 7M | 1 | L3 |
|    | b) | A manufacturer of cotter pins knows that 5% of his product is defective. Pins are sold in boxes of 100. He guarantees that not more than 10 pins will be defective. What is the approximate probability that a box will fail to meet the guaranteed quality? Using Poisson distribution. | 7M | 1 | L3 |

(OR)

- |    |  |  |     |   |    |
|----|--|--|-----|---|----|
| 2. |  | The marks obtained in mathematics by 1000 students is normally distributed with mean 78% and standard deviation 11%. Find (i) how many students got above 90%. (ii) what was the highest mark obtained by the lowest 10% of the students. Using Normal distribution. | 14M | 1 | L3 |
|----|--|--|-----|---|----|

**UNIT-II**

- |    |    |  |    |   |    |
|----|----|--|----|---|----|
| 3. | a) | What is the size of the smallest sample required to estimate an unknown proportion to within a maximum error of 0.06 with at least 95% confidence. | 7M | 2 | L3 |
|    | b) | A random sample of size 81 was taken whose variance is 20.25 and mean is 32, construct 98% confidence interval.                                    | 7M | 2 | L3 |

(OR)

- |    |  |   |     |   |    |
|----|--|---|-----|---|----|
| 4. |  | A population consists of four numbers 2, 3, 4, 5. Consider all possible distinct samples of size two without replacement. Estimate (i) the population mean (ii) the population standard deviation (s.d.) (iii) the sampling distribution of means (iv) the mean of the S.D. of means (v) s.d. of S.D. of means. | 14M | 2 | L3 |
|----|--|---|-----|---|----|

### UNIT-III

5. The means of two large samples of sizes 1000 and 2000 members are 67.5 inches and 68.0 inches respectively. Can the samples be regarded as drawn from the same population of S.D. of 2.5 inches? Using Z-Test for difference of means. 14M 3 L3

(OR)

6. Experience had shown that 20% of a manufactured product is of the top quality. In one day's production of 400 articles only 50 are of top quality. Test the hypothesis at 0.05 level. Using Z-Test for single proportions. 14M 3 L3

### UNIT-IV

7. A machine is designed to produce insulating washers for electrical devices of average thickness of 0.025 cm. A random sample of 10 washers was found to have a thickness of 0.024 cm with a S.D. of 0.002 cm. Test the significance of the deviation. The value of  $t$  for 9 degrees of freedom at 5% level is 2.262. Using T-Test for single mean. 14M 4 L3

(OR)

8. A sample analysis of examination results of 500 students was made. It was found that 220 students had failed, 170 had secured a third class, 90 were placed in second class and 20 got a first class. Do these figures commensurate with the general examination result which is in the ratio of 4:3:2:1 for the various categories respectively. Using chi-square test for independence of attributes. 14M 4 L3

### UNIT-V

9. Determine the correlation coefficient  $r$  for the following data: 14M 5 L3

$X: 63, 50, 55, 65, 55, 70, 64, 70, 58, 68, 52, 60$

$Y: 87, 74, 76, 90, 85, 87, 92, 98, 82, 91, 77, 78$

(OR)

10. Determine the rank correlation for the following data which shows the marks obtained in two quizzes in mathematics. 14M 5 L3

Marks in 1<sup>st</sup> quiz

(X) 6 5 8 8 7 6 10 4 9 7

Marks in 2<sup>nd</sup> quiz

(Y) 8 7 7 10 5 8 10 6 8 6