

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

**Course Code & Name : 23ADO201 – DATA SCIENCE FUNDAMENTALS**

**Course Faculty : Mr.K.Karthikeyan/AP/CSE**

### Question Bank

#### UNIT-IV: ANALYSIS OF VARIANCE

#### Part A- Two Mark Questions

PART A					
S.No	Questions	M	CO	BL	Industry/Company Name
1	What is a t-test?	2	CO-4	L-1	TCS
2	Differentiate between independent and related samples t-test.	2	CO-4	L-2	Infosys
3	Define p-value in the context of t-tests.	2	CO-4	L-1	Wipro
4	What is statistical significance?	2	CO-4	L-1	HCL
5	When is a one-sample t-test used?	2	CO-4	L-2	Cognizant
6	Explain the sampling distribution of t.	2	CO-4	L-2	Accenture
7	What assumptions are made in ANOVA?	2	CO-4	L-2	Deloitte
8	Define Type I and Type II errors.	2	CO-4	L-1	Microsoft
9	What is the F-distribution used for?	2	CO-4	L-1	Google
10	Give an application of ANOVA in data science.	2	CO-4	L-2	IBM

**Part B 16 Mark Questions**

PART B					
S.No	Questions	M	CO	BL	Industry/Company Name
1	Explain the t-test procedure for two independent samples with an example.	16	CO-4	L-4	Infosys
2	Compare t-test and ANOVA. Discuss when each should be used.	16	CO-4	L-5	Deloitte
3	Perform ANOVA on a given dataset and interpret the results.	16	CO-4	L-5	IBM
4	Discuss the practical implications of Type I and Type II errors in hypothesis testing with examples.	16	CO-4	L-4	Accenture