Name:

Enrolment No:

UPES

End Semester Examination, May 2025

Course: : Infrastructure Automation
Semester:

Program: BCA-Cyber Security and AIML
Time : 03 hrs.

Course Code: CSBC3021P Max **Max. Marks: 100**

Instructions:

SECTION A

(5Qx4M=20Marks)

S. No.		**Marks**	**CO**
Q 1	Differentiate between the PUT and POST methods in REST APIs.	**4**	**CO1**
Q2	Outline and explain the typical stages involved in a CI/CD pipeline.	**4**	**CO3**
Q3	Identify the primary programming languages used in Cisco DevNet and briefly describe their roles.	**4**	**CO2**
Q4	Define Ansible and illustrate its application in network automation.	**4**	**CO2**
Q5	Explain the purpose of a sandbox environment within Cisco DevNet and evaluate its benefits for developers.	**4**	**CO1**

SECTION B

(4Qx10M= 40 Marks)

Q6	Define version control and explain how software version control is implemented using Git.	**10**	**CO3**
Q7	Define APIs and explain their role and importance in software development.	**10**	**CO4**
Q8	Comment on how Python can be used to parse different messaging and data formats, providing proper explanations and examples.	**10**	**CO2**
Q9	Define the following software development models briefly: (i) Waterfall Model (ii) Agile Model (iii) Spiral Model (iv) Iterative Model	**10**	**CO3**
SECTION-C **(2Qx20M=40 Marks)**			
Q10	Explain the use of APIs in software applications and system communication. i. Describe various API design styles with appropriate examples. ii. Compare synchronous and asynchronous API design styles, discussing their advantages and limitations. iii. Define REST API and explain its key functions with real-life examples.	**20**	**CO4**
Q11	Define the Software Development Process and explain its significance in building software applications. i. Explain software design patterns and describe the benefits associated with different types of design patterns. ii. Define data formats and discuss their role in data representation and communication.	**20**	**CO3**