

IMSc (CA & IT) Sem.-4 Examination
Open Source Technology

Time : 2-30 Hours]

April-2025

[Max. Marks : 70

Q.1 Answer the following.

- a. Attempt any one. 10
1. Draw and explain Open-source development model in details.
 2. What is file management system draw and explain.
- b. Attempt any one. 4
1. What is Open-Source Software (OSS)? How it is useful to Small Businesses?
 2. Explain General Public License.

Q.2 Answer the following.

- a. Attempt any two. 10
1. Explain Creative Commons License.
 2. How would you create, move, copy, and delete files and directories in Linux using terminal commands?
 3. Explain how to open, edit, save, and exit a file using VIM editor.
- b. Attempt any one. 4
1. Write down 5 challenges and benefits of using open-source software (OSS) and explain.
 2. Discuss chmod, chown and rmdir and head command using example.

Q.3 Answer the following.

- a. Attempt any two. 10
1. What are logical operators in Python? Describe and, or, and not with examples.
 2. What is the difference between break and continue statements? Explain with examples.
 3. Explain the concept of string formatting in Python. Provide at least two methods of string formatting and illustrate each with an example code snippet.
- b. Attempt any one. 4
1. What is package management system explain briefly.
 2. Explain various open-source licence.

(P.T.O)

Q.4 Answer the following.

- a. Attempt any one. 4
1. What are anonymous functions or lambdas in Python? Provide examples demonstrating their syntax and common use cases.
 2. Explain local and global scope with examples.
- b. Attempt any two. 10
1. What is the difference between a function and a method in Python? Give examples.
 2. How are variable-length arguments handled in Python functions? Explain `*args` and `**kwargs` with examples.
 3. What is API explain with diagram.

Q.5 Attempt any one. 14

1. Explain how to read from and write to a file in Python. Write a program that reads the contents of a file and writes them to a new file.
 2. What is CatB? explain Cathedral and Bazaar methodology used in development of open-source software (OSS).
 3. What is a dictionary in Python? Discuss with examples and what is inheritance in Python? Explain single and multilevel inheritance with examples.
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