

Roll No.

--	--	--	--	--	--	--	--	--	--

B.E / B.Tech (FT ~~XXXX~~) END SEMESTER EXAMINATIONS – APRIL / MAY 2019

B.Tech IT

IT8072 Free and Open Source Software

(Regulation ...2012.....)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. | List the four freedoms of Free Software.
2. | How do Open Source developers collaborate?
3. | What happens when you use the following commands.
  - 1) pwd
  - 2) ls
4. | Name atleast four good FOSS coding practices.
5. | Differentiate user space and kernel space.
6. | Name the directory where you could find the following contents in Linux :
  - i) Configuration details
  - ii) booting information and kernel
7. | What is the output of the following python snippet.

```
list1 = ['a','b','c','d']  
list1[0]=200
```
8. | Linux can run on i386 also. Why?
9. | Name the common mobile device that uses Linux. Mention the make, the latest distribution name and the version number.
10. | What are the advantages of using Free Software?



**Part – B ( 5 x 16 = 80 marks)**  
**(Question No.11 is Compulsory)**

11. i) Explain the hierarchy of the structure of directories in Unix/ Linux. How is it different from the structure of Microsoft Windows. (8)  
ii) Explain the licensing schemes of software. (8)
12. a) Explain the process management in Linux with an emphasis towards the role of kernel with a neat diagram. (16)  
(OR)  
b) i) What are the different types of devices? Explain. (8)  
ii) With a diagram explain partitioning in Linux systems. (8)
13. a) How will you package C or C++ programs using make files. Explain with an

example of developing a package for the factorial of  $n$  numbers. (16)

(OR)

- b) With a source code versioning method of your choice, explain: (16)
- i) how will you initiate a repository
  - ii) Make changes in the repository
  - iii) Commit and get the information of changes
  - iv) Retract the older committed version
  - v) Branch the existing repository
  - vi) Joint collaboration with other members at the same time

14. a) Explain the architecture of X11 window system used in Linux. Does this architecture support different desktop environments? How? (16)

(OR)

- b) i) Write a python function to calculate the sum of even numbers from 1 to 100 (8)  
ii) What is the difference between iteration and recursion? Write a python program to recursively print the multiple of 3. (8)

15. a) i) Linux can be seen in portable devices as well as in supercomputers. Why? Mention any four reasons (8)  
ii) Name the type of file system used in mobile devices such as Android. Explain how contents are written, deleted and read (8)

(OR)

- b) With examples, compare the features of proprietary software with that of FOSS equivalents. Where do you find the grey areas in FOSS equivalents. Why? (16)

