Resolution No:AC/II(23-24).2.RUS6

S. P. Mandali's

Ramnarain Ruia Autonomous College

(Affiliated to University of Mumbai)

RUIA COLLEGE
Explore • Experience • Excel

Syllabus for

Program: F.Y.B.Sc.

Program Code: RUSCS

(As per the guidelines of National Education Policy 2020-
Academic year 2024-25)

(Choice based Credit System)

PROGRAM OUTLINE (B.Sc.)

Year	Sem	Course code	Type of course	Course title	Credits
FY B.Sc.	I	RUSSECCSP.O101	Practical based on SEC	Practicals of Open Source Technology	2
FY B.Sc.	II	RUSSECCSP.E111	Practical based on SEC	Practicals of Object Oriented Programming with JAVA	2

SEMESTER I

Course Code: RUSSECCS.O101

Course Title: Open Source Technology

Type of Course: Skill Enhancement Courses

COURSE OUTCOMES:

COURSE OUTCOME	DESCRIPTION **After Completing this course student will be able to :**
CO 1	To differentiate between open-source software and commercial software.
CO 2	To Understand the policies, licensing procedures and ethics of FOSS.
CO 3	To work with open source softwares
CO 4	Awareness with Open-Source Technologies.

** Theoretical concepts required for practicals will be covered in practical session.

Course Code	PRACTICAL OF OPEN SOURCE TECHNOLOGIES	Credits

	1.Open Source Operating Systems Learn the following open source operating system of your choice: Linux, Android, FreeBSD, Open Solaris etc. Learn the installation. Identify the unique features of these OS. 2. Linux Advanced commands 3.Hands on with LibreOffice 4.Hands on with GIMP Photo Editing Tool 5. Hands on with Shotcut Video Editing Tool 6. Hands on with Blender Graphics and Animation Tool 7.Hands on with Apache Web Server 8. Hands on with WordPress CMS 9. Contributing to Wikipedia: Introduction to wikipedia: operating model, licence, how to contribute? Create your user account on wikipedia. Identify any topic of your choice and contribute the missing information 10. Github Create and publish your own open source project: Write any simple program using your choice of programming language. Create a repository on github and save versions of your project. You‟ll learn about the staging area, committing your code, branching, and merging, Using GitHub to Collaborate: Get practice using GitHub or other remote repositories to share your changes with others and collaborate on multi developer projects. You‟ll learn how to make and review a pull request on GitHub. Contribute to a Live Project: Students will publish a repository containing their reflections from the course and submit a pull request. 11. Virtualization: Open Source virtualization technologies: Install and configure the following: VirtualBox, Zen, KVM Create and use virtual machines 12. Containerisation 13. Licensing	**2**

	14. open source database technologies 15. Open source programming tool	

SEMESTER II

Course Code: RUSSECCS.E111

Course Title: Object Oriented Programming using JAVA

Type of Course: Skill Enhancement Courses

Academic year 2024-25

COURSE OUTCOMES:

COURSE OUTCOME	DESCRIPTION **After Completing this course student will be able to:**
CO 1	Apply object-oriented concepts to solve real world problems
CO 2	Implement principles of packages and strings in java.
CO 4	Develop multi-thread applications with exception handling
CO 5	Understand java I/O streams
CO 6	Apply exception handling concept
CO 7	Understand Thread communication

** Theoretical concepts required for practicals will be covered in practical session.

Course Code	**Object oriented Programming with Java**	Credits
	1. Basic Java Programs -1(using variables, operators) 2. Basic Java Programs -2(loops and conditional statements) 3. Implementation of arrays 4. Implementation of methods 5. Implementation of classes and objects 6. Implementation of interfaces 7.Implementation of packages 8.Implementation of Encapsulation concept 9.Implementation of inheritance concepts. 10..Implementation of polymorphism concepts. 11. Exercises on string manipulation 12. Implementation of exception handling. 13.Exercises on file handling and stream concepts 14.Implementation of networking 15.Implementation of Multithreading concept	2

MODALITY OF ASSESSMENT

Skill Enhancement Course (2 Credit)

A) Total Marks

a. Practical – 50 Marks

D) Practical Examination (Semester End): 50 marks

a. Practical Internal Assessment (40%) 20 Marks: Students have to acquire at least 40% marks in each paper individually.

b. **Practical Sem End Exam (60%) 30 Marks**.

Particulars	Practical
Laboratory work	50
Total	**50**