**Course File**

**Department Name : Master of Computer Applications**

**Program Name : M.C.A.**

**Course Name : Object Oriented Programming with JAVA**

**Course Code : MCAN- 203**

**Semester : 2nd**

**Faculty Name : Subhrangsu Chandra**

**Session : 2023-24**



Dr. B.C. Roy Engineering College, Durgapur

Jemua Road, Fuljhore

Durgapur-713206

West Bengal

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19. **Vision & Mission of the Institute:**

**VISION:**

**TO TRANSFORM THE INSTITUTION INTO A GLOBAL CENTRE OF LEARNING THROUGH SYNERGIC APPLICATION OF CREATIVITY INNOVATION AND DISCIPLINE**

**MISSION:**

**• Create ideal ambience for learning and growth**

**• Help students inherit value-systems, be creative and agile thinkers**

**• Establish Discipline; Value Added Education and Training 8 Placement as Three Core Values**

**• Building capabilities among students to lead from the front as also be a team player**

**• Develop a symbiotic relationship between the institution, society and the community, for mutual betterment**

**• Expand the Vistas of higher learning in Technology and Management Fields, including Post Graduate Studies and Research**

**• Encourage Global Vision and Integration with International best practices for Local, Regional and National Development**

1. **Vision & Mission of the Department:**

**Vision -**

**The department of Master of computer application strives to groom students with diverse backgrounds into competitive software professionals with moral values and committed to build a vibrant nation.**

**Mission-**

**1. To impart high quality professional training at the postgraduate and graduate level inculcating a capacity for critical and lateral thinking.**

**2. To develop the youth into professionals who can work in team, possess high analytical abilities, and help in solving complex problems of various domains through principles of computer science and applications.**

**3. Empowering the youth in rural communities with computer Technology.**

**4. To encourage entrepreneurial environment and nurture innovative ideas.**

**5. To bridge the gap between industry and academia by framing curricula and syllabi based on industrial and societal needs.**

1. **Program Outcomes (POs):**

**On Completion of MCA program, the post-graduates are expected to**

**PO 01: Engineering Knowledge: Ability to apply knowledge of computing, science, mathematics and engineering fundamentals appropriate to the discipline**

**PO 02: Problem Analysis: Ability to identify, critically analyse, formulate the computing requirements appropriate to its solution and develop computer applications**

**PO 03: Design/Development of Solutions: Ability to design, implement and evaluate a computer-based complex system, process, component, or program to meet desired needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations**

**PO 04: Conduct Investigations of Complex Problems: Use of research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions and develop Software with complete satisfaction to the Customer.**

**PO 05: Modern Tool Usage: Ability to apply current technologies, skills, and modern IT tools necessary for computing practice with an understanding of the limitations.**

**PO 06: The Engineer and Society: Ability to understand the impact of system solutions in a contemporary, global, economical, environmental and societal context for sustainable development.**

**PO 07: Environment and Sustainability: Ability to understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.**

**PO 08: Ethics: Ability to discharge their duties with professional and ethical responsibilities as an individual as well as in multidisciplinary teams with positive attitude.**

**PO 09: Individual and Team Work: Ability to function individually in effective manner and on teams, including diverse and multidisciplinary, to accomplish a common goal.**

**PO 10: Communication: Ability to communicate effectively with a range of audiences and be customer friendly.**

**PO 11: Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team to manage projects and in multidisciplinary environments and should be economically feasible.**

**PO 12: Life-Long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological changes.**

1. **Program Specific Outcomes (PSO):**

**The post-graduates of Master of Computer Application Program will demonstrate:**

**PSO 01: Software System Design and Development: The ability to apply software development life cycle principles to design and develop the application software that meets the automation needs of society and industry.**

**PSO 02: Computing and Research ability: The ability to employ modern computer languages, environments and platforms in creating innovative career paths in SMAC (Social, Mobile, Analytics and Cloud) technologies.**

**PSO 03: Professionalism and Ethics: Efficient team leaders, effective communicators and capable of working in multi-disciplinary environment following ethical values.**

**5. Program Educational Objectives (PEOs)**

**PEO 01: Technical Expertise: Develop the ability to plan, analyze, design, code, implement, test and maintain the software product for real time systems that are technically sound, economically feasible and socially acceptable**

**PEO 02: Successful Career: Exhibit professionalism, ethical attitude with updated technologies in Computer Application based career and capability to set up their own enterprise in various sectors of Computer Applications**

**PEO 03: Soft Skills: Develop communication skills, team work and leadership quality in their professional multidisciplinary projects and adapt to current trends by engaging in**

**Lifelong learning**

**PEO 04: Life Long Learning: Prepare the students to pursue higher studies by acquiring knowledge in mathematical, computing and engineering principles in the field of**

**computing and related fields and to work in the fields of teaching and research.**

**6. Course outcomes:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Name** | **Object Oriented Programming With JAVA** | **Course Code** | **MCAN-203** |
| **Semester** | **1st** | **Contact Hrs/Week** | **4** | **Credit** | **4** |

|  |  |  |
| --- | --- | --- |
| **CO Number** | **Description** | **Module** |
| **CO 1** | Understanding of Characteristics of Java Language and Use of variables, data types, arrays, strings. | BL-3 |
| **CO 2** | Application of Class, Objects Inheritance, Abstraction, methods, instance variables, interfaces. | BL-4 |
| **CO 3** | Creation of Packages and Exceptions and implementation of Thread and synchronization between Threads.  | BL-5 |
| **CO 4** | Implementation of Java Input/ Output and Creation of Windows application Through class by Applet,AWT and managing Layout, menu through graphics.  | BL-3,BL- 4 |

**7. Mapping**

**https://docs.google.com/spreadsheets/d/1bmkcQOH8wTLX9wOmK8DNaIQOvT7Xot54/edit?usp=drive\_link&ouid=113551212244714350199&rtpof=true&sd=true**

**8. Lesion Plan:**

|  |
| --- |
|  |
| **MCAN-203** | **Object Oriented Programming With JAVA** | **40L** |
| **Module****No** | **Topics to be Covered** | **Text Book** | **Course****Outcome****(CO)** | **Program****Outcome****(PO)** | **No.****Of****Lectures** |
|  |  |  |  |  |  |
| **1** | **Object Oriented Languages** | ***(10L)*** |
| 1.1 | Introduction to basics of JAVA Programming |  | CO1 | PO1, PO5 |  |
| 1.2 | Java Internet programming structure |  |
| 1.3 | Class and Object concept |  |
| 1.4 | Variable & Data types |  |
| 1.5 | Array and String |  |
|  |  |  |  |  |  |
| **2** | **Classes and Inheritance** | ***(10L)*** |
| 2.1 | Different types of Inheritance |  | CO2 | PO1 to PO4 |  |
| 2.2 | Abstraction |  |
| 2.3 | Packages and Interface |  |
| 2.4 | Exception Handling |  |
|  |  |  |  |  |  |
| **3** | **Multithreading Programming** | ***(10L)*** |
| 3.1 | Java Thread |  | CO3, CO4 | PO1 to PO5, PO11 |  |
| 3.2 | Input/ Output in Java |  |
| 3.3 | Creating Applet in Java |  |
|  |  |  |  |  |  |
| **4** | **Working with Windows** | ***(10L)*** |
| 4.1 | Working with Windows |  | CO4 | PO1 to PO5, PO11 |  |
| 4.2 | Working with Graphics and Text |  |
|  |

**9. Time Table:**

[**https://drive.google.com/file/d/17R69x-1alZHOFhlf429Rj9foYocodca7/view?usp=drive\_link**](https://drive.google.com/file/d/17R69x-1alZHOFhlf429Rj9foYocodca7/view?usp=drive_link)

**10. Syllabus:**

[**https://drive.google.com/file/d/1FN-LvLEys\_LPZVGaHcDLffgZB5Sby6kb/view?usp=drive\_link**](https://drive.google.com/file/d/1FN-LvLEys_LPZVGaHcDLffgZB5Sby6kb/view?usp=drive_link)

**11. Continuous evaluation question papers:**

[CA](10.2.%20MCAN203_CA-III_2021-23_Class%20Test.docx)2(Assessment sheet) –

**https://drive.google.com/file/d/1Ln3FPdFSkCWT\_KIufjfWn\_OIwWKXjxJc/view?usp=drive\_link**

CA2(Rubrics) - [**https://drive.google.com/file/d/1A4g207ySp7Xdl4chzmwJPigYOENQGmRS/view?usp=drive\_link**](https://drive.google.com/file/d/1A4g207ySp7Xdl4chzmwJPigYOENQGmRS/view?usp=drive_link)

CA3(Assessment Sheet) –

**https://drive.google.com/file/d/1DaZBNmNBGW0CA8Ho9kqInH3M1U6aF6Ny/view?usp=drive\_link**

**12. Continuous evaluation results:**

[CA](5.2.%20CA-III.pdf)2 - **https://drive.google.com/file/d/1gTETyNJ\_COSAFxTup6QHChHQryKx3UuN/view?usp=drive\_link**

[CA](11.3.%20CA-IV.pdf)3- **https://drive.google.com/file/d/1JHz479C98uSjDBwTLHj64HhkgkTGuvNa/view?usp=drive\_link**

CA4-

**https://drive.google.com/file/d/19NXPB\_spaxEcz0z5s1GHidmD4VorkRxe/view?usp=drive\_link**

**13. Lecture Notes(Hand written/ typed):**

[**https://drive.google.com/drive/folders/1pHI\_6ZZdT1eo8zumnFA9tp5h9v\_MnD1F?usp=drive\_link**](https://drive.google.com/drive/folders/1pHI_6ZZdT1eo8zumnFA9tp5h9v_MnD1F?usp=drive_link)

**14. Consolidated Attendance System Of Students:**

[Attendance](13.%20Attendance%20MCAN203%282021-23%29.pdf) **- https://docs.google.com/spreadsheets/d/1n0QkZoYTmGTg1OIJckcbVhyk-PfK9224/edit?usp=drive\_link&ouid=113551212244714350199&rtpof=true&sd=true**

**15. Overall Result:**

[Click](14.%20result_2nd_sem%282021-2023%29.xlsx) - **https://docs.google.com/spreadsheets/d/1No34gNSl7bsjFQPFkN1a2aI71hTsIRCm/edit?usp=drive\_link&ouid=113551212244714350199&rtpof=true&sd=true**

**16. Result Analysis:**

[Attainment](Other%20Files/16.%20Attainment%20MCAN203%282021-23%29.xlsx) –

**<https://drive.google.com/drive/folders/1F2q7da-FK7JaAwJLUxaE5AwyGiwN9ds7?usp=drive_link>**

**17. Weak learner and advanced learner identification:**

In this batch all students are above the average category so there is no any slow learner.

**18. Remedial measures for weak learners:**

 No scheduled remedial classes are taken but one in a month one revision was there.