परिषद
या परिषदकाम्ये सर्व संबंधितां कुलक्रमांत येंते की, दिनांक ०८ जून २०१९ रोजी संपन्न झालेल्या ४४व्या मासिक परिषद बैठकतील ऐनवेल्डा विषय क्र.११/४४–२०१९ या उत्तरवाणु, प्रस्तुत विद्यापीठात येल्ला संलग्न महाविद्यालयातील विज्ञान व तंत्रज्ञान विद्यार्थीतील पदवी सत्त्वस्तील प्रश्न वर्षाचे C.B.C.S. (Choice Based Credit System) Pattern नुसार अभ्यासक्रम शैक्षणिक वर्ष २०१९–२० पासून लागू करण्यात येत आहेत.

1. Agricultural Microbiology
2. Agrochemicals & Fertilizers
3. Analytical Chemistry
4. B.C.A.
5. B.Voc. (Food Processing, Preservation and Storage)
6. B.Voc. (Web Printing Technology)
7. Biochemistry
8. Bioinformatics
9. Biophysics
10. Biotechnology (Vocational)
11. Biotechnology
12. Botany
13. Chemistry
14. Computer Application (Optional)
15. Computer Science (Optional)
16. Computer Science
17. Dairy Science
18. Dyes and Drugs
19. Electronics
20. Environmental Science
21. Fishery Science
22. Food Science
23. Geology
24. Horticulture
25. Industrial Chemistry
26. Information Technology (Optional)
27. Mathematics
28. Microbiology
29. Network Technology
30. Physics
31. Software Engineering
32. Statistics
33. Zoology

सदस्यीय परिषद
विषेषतः, नंदिनी ४३१ ६०६.
आकर्षण–२३/परिषदक्रम/पदनी–संबंधीतांस अभ्यासक्रम/ २०१९–२०/२९२
दिनांक : ०३.०६.२०१९.
प्रत महिला व पुरुष कार्यक्रमस्थान:
1) विषेशतः व विद्यार्थी कार्यक्रमस्थान.
2) विषेशतः संबंधित पदवी मुख्यालय मंडळ विषय कार्यक्रम.
3) प्रत्येक पदवी संबंधित महाविद्यालय, प्रस्तुत विद्यापीठ.
4) सहायता विकल्पमत, पतंज्ली शिक्षण, प्रस्तुत विद्यापीठ.
5) उपकुलस्विव, पाठ्य विभाग, प्रस्तुत विद्यापीठ.
6) विभाग एस्सेस्टरी, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.
Syllabus of

B.Sc. Optional Information Technology
(3 years)
(Revised CBCS pattern)

Introduced from Academic Year 2019-20
B.Sc. Optional Information Technology

B.Sc. Optional Information Technology (3years) program / degree is a general B.Sc. program where students opt Information Technology as one of the optional subject. It builds the student on studies in Information technology tools and techniques and to become competent in the current race and development of new software. The duration of the study is of six semesters, which is normally completed in three years.

CBCS pattern

The B.Sc. Optional Information Technology program as per CBCS (Choice based credit system) pattern, in which choices are given to the students under open electives and subject electives. The students can choose open electives from the wide range of options to them.

Eligibility and Fees

The eligibility of a candidate to take admission to B.Sc. Optional Information Technology program is as per the eligibility criteria fixed by the University. More details on admission procedure and fee structure can be seen from the prospectus of the college / institution as well as on website of the University.

Credit Pattern

Every course has corresponding grades marked in the syllabus structure.

The credit pattern is similar to other optional subjects like Physics, Mathematics, Chemistry, etc.

The Grading pattern to evaluate the performance of a student is as per the University rules.

The detailed syllabus structure is as belwo,
**SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED**  
**CHOICE BASED CREDIT SYSTEM (CBCS)**  
**SEMESTER PATTERN**

Faculty of Science & Technology  
Under Graduate (UG) Programmes  
**INFORMATION TECHNOLOGY (OPTIONAL)**

**CURRICULUM**

(W. E. F. Academic Year 2019-2020)

**CLASS: B. Sc. INFORMATION TECHNOLOGY (Optional) Structure**

<table>
<thead>
<tr>
<th>Year/Sem</th>
<th>Code</th>
<th>Paper</th>
<th>Title of Paper</th>
<th>Periods /Week</th>
<th>Credit</th>
<th>Exam Hrs.</th>
<th>Marks</th>
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<tbody>
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<tr>
<td>Sem-I</td>
<td>OIT-101</td>
<td>I</td>
<td>Foundation of Information Technology</td>
<td>03</td>
<td>02</td>
<td>02</td>
<td>40</td>
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<tr>
<td></td>
<td>OIT-102</td>
<td>II</td>
<td>Web Technology</td>
<td>03</td>
<td>02</td>
<td>02</td>
<td>40</td>
</tr>
<tr>
<td>Sem-II</td>
<td>OIT-103</td>
<td>III</td>
<td>Programming Language Concepts</td>
<td>03</td>
<td>02</td>
<td>02</td>
<td>40</td>
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<tr>
<td></td>
<td>OIT-104</td>
<td>IV</td>
<td>Office Automation</td>
<td>03</td>
<td>02</td>
<td>02</td>
<td>40</td>
</tr>
<tr>
<td>Annual</td>
<td>OIT-105</td>
<td>V</td>
<td>Practical Based on Theory Papers II and IV.</td>
<td>03</td>
<td>04</td>
<td>03</td>
<td>80</td>
</tr>
</tbody>
</table>

**Note:** A Practical group/ batch for practical papers is recommended to have 10-15 students as per the SRTMUN and UGC Guidelines under CBCS (Choice Base Credit System)
Theory: Paper No. I

Foundation of Information Technology

Course Code: OIT-101

[Marks: 50 Total Periods: 45]

Course Objectives:

1. Information Technology courses are an excellent choice to help advance your career.
2. Information technology courses can help you become a more competitive and valuable employee with important skills.

Course Outcome:

1. This course can assess and apply their strengths in marketing.
2. It includes model ethical and professional behavior.

UNIT-I:- Basic Computer Organization and History  Periods: 10


UNIT-II:- Computer Peripherals & Memory Organization  Periods: 15


UNIT-III:- Operating System , Application and Software Packages  Periods: 10

Introduction to Operating System , Functions of Operating System , Types of Operating System Introduction to Applications and Software Packages

UNIT-IV:- Data Communication and Internet  Periods: 10

Introduction to Computer Network, Internet, Intranet, Data transmission modes , OSI Model , Role of communication protocol , Wireless network technologies , E-mail, FTP, Web Browser and types of web browser

References Books:

Course Code: OIT -102 [Marks: 50 Total Periods: 45]

Course Objectives:
1. This introduces to the design, creation, and maintenance of web pages and websites.
2. This course gives a strong foundation to learn the Internet Technologies.

Course Outcome:
1. Use of web technology
2. Formats and languages used in modern web-pages: HTML, XHTML, CSS, XML, XSLT, Javascript etc.

Unit-I

Periods: 10
Internet, The Important of the Internet, World Wide Web, URLs, Web Browsers, Web Server, Internet Services, The web flow, objectives of the website, basic interface design, developing a store board for the website, navigation and links within the site, checklist for designing.

Unit-II

Periods: 10

Unit-III

Periods: 10
Images in HTML Pages, Tables in HTML, Frames, Creating Frames, frame attribute linking, complex framesets, Inline frames, Image maps.

Unit-IV

Periods: 15

References Books:
3. HTML, DHTML, JavaScript, Perl CGI by IVAN Bayroos, BPB Publication.
Theory: Paper No.III  
Programming Language Concepts

Course Code: OIT-103  [Marks: 50 Total Periods: 45]

Course Objectives:
1. This course provides the core knowledge to begin programming in any language.
2. This course introduces the fundamental building blocks of programming.

Course Outcome:
1. To Train students with basic concepts of programming using.
2. Develop various real time applications using latest technologies and programming languages

Unit-I: Introduction To Problem Solving &Programming Environment   Periods:15

Unit–II: Fundamental of Algorithms  & Array Techniques    Periods:10
Algorithm for exchanging the value of two variables, counting, summation of set of numbers, factorial computations, generation of Fibonacci series. Introduction to array, memory representation of array, and algorithm for array order Reversal, array counting, finding maximum and minimum element from array.

Unit –III: Data Structures   Periods:15
Introduction to Linked list, Representation of linked list in memory, Traversing, Searching in Unsorted linked list, Inserting at the beginning of a list, deleting node following a given Node. Stack: Introduction, Memory representation of Stack, Insert element in Stack i.e. PUSH operation, Delete element from Stack i.e. POP operation. Queue: Introduction, Memory Representation, Insert & Delete operation in Queue.

Unit-IV : Sorting and searching techniques    Periods:05
Bubble sort, selection sort, merge sort, insertion sort, linear search and binary search

References Books:
1. FUNDAMENTALS OF COMPUTERS BY V. RAJARAMAN.
2. HOW TO SOLVE IT BY COMPUTER, BY R.G. DROMMY ( PHI LTD)
3. COMPUTERS AND COMMONSENSE BY R. HUNT AND SHELL Y.
4. DATA STRUCTURE BY SEYMOUR LIPSCHTZ (TMH PUBLICATION)
Theory: Paper No. IV  
Office Automation

Course Code: OIT-104 [Marks: 50 Total Periods: 45]

Course Objectives:
1. Office tools course would enable the students in crafting professional word documents, excel spreadsheets, power point presentations using the Microsoft suite of office tools.
2. To provide an in-depth training in use of office automation, internet and internet tools. The course also helps the candidates to get acquainted with IT.

Course Outcome:
1. It provides an in-depth training in use of office automation tool.
2. The students in preparation of documents and presentations with office automation tools.

UNIT-I: Operating System Periods: 10

UNIT-II: MS WORD Periods: 15
4. Print the document a. Print Preview b. Print Dialog box WORD
5. Mail Merge in Ms-word a. Create main document and data file for mail merging b. Merging the files c. From letters using mail merging d. Mailing labels using mail merging.
6. Table creation in Ms-word a. Create a table in the document b. Add row, column to a table c. Changing column width and row height. d. Merge, split cells of table. e. Use formulae in tables. f. sorting data in a table. g. formatting a table.
UNIT-II: EXCEL  
Create and save a new work book in Excel., Entering Data into Worksheet , Editing data of Worksheet, Formatting the text in the cells, Formatting the numbers in the cells., Formatting cells., Copying format of cell along with data format., Changing the height and width of cells., Freezing Titles, splitting screen., Enter formulae for calculation in the cells., Copying the formula over a range of cells., Built in Functions Inserting built-in functions in to the cells., Types of Graphs, Create graphs for the data using Chart Wizard.,

UNIT-III: POWER POINT  
Layout of opening screen in Power Point, The tool bars in MS Power Point, Create and save a new presentation using MS Power Point , Choose Auto Layout for a new slide., Insert text and pictures into a blank slide., Insert new slides into the presentation., Apply slide transition effects., Slide show., Set animation to text and pictures in a slide., Set the sounds, order and timing for animation. Introduction to Ms-Access : Database Concept,

References Books:
Practical (Annual): Paper No. V

Course Code: OIT-105(Lab) : Practical Based On Theory Papers – II & IV

Objectives:
1. To familiarize the students to the practical HTML, DHTML and JavaScript
2. Give hands on training to the students and make them acquainted with various Real Time Applications and Uses of MS-Office which will boost their future professional career.

Outcomes:
1. Able to use of web technology and its related software’s
2. It provides an in-depth training in use of office automation tool.

- At least 10 practical sessions based on paper no II.
- At least 10 practical sessions based on paper no IV.