FACULTY OF SCIENCE

SYLLABI
FOR
COMPUTER SUBSIDIARY
FOR
B. Sc. (Hons. School)
for Mathematics (Ist. Year) & Physics Students(2nd Year)
M. Sc. (Hons. School) 1st 2nd Semester
for Biochemistry, Microbiology, Biophysics & Zoology
Students

EXAMINATIONS 2018 - 2019

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Course Title: Computer Applications  
Course Hrs: 90

Subsidiary Course is being offered to:
1. Zoology, M.Sc. (H.S.) 1st year
2. Biophysics, M.Sc. (H.S.) 1st year
3. Biochemistry M.Sc. (H.S.) 1st year
4. Microbiology, M.Sc. (H.S.) 1st year

Scheme of Examination:

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<th>Paper</th>
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<th>Theory/Practical Marks</th>
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<tr>
<td>Paper A: PC Software</td>
<td>3</td>
<td>80</td>
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<td>Paper C: Practical Based on Paper A</td>
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<td>20</td>
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Objectives: The course enables students to know the basic of Computers Operating Systems and applications software.

Paper A: PC Software

Note:

i. The Question Paper will consist of five Sections A, B, C, D, and E comprising of total of NINE questions.

ii. Examiner will set TWO questions each in Sections A, B, C, D and ONE question in Section E. The Examiner will set 7-10 short answer type questions in Section E covering the whole syllabus.

iii. The students are required to attempt FIVE questions in all by selecting ONE question each from Section A, B, C, D and Section E is compulsory.

iv. All questions carry equal marks.

SECTION - A

Introduction to Computers:
General model of computer system Brief description of various components of Computer; Input/Output devices; Type of auxiliary storage; Classification of computer on chronology, size and architecture; configuration of Pentium.

SECTION – B

Introduction to Operating System:
Functions of an operating system; types of operating system; Windows OS, Features: File & directory Management, Accessories. Types of DOS commands; Internal and External. - DIR, MD, CD, CLS, COPY, DATE, DEL, PATH, REN, RD, TIME, TYPE, VER, VOL External Commands: XCOPY, ATTRIB, BACKUP, RESTORE, FIND, SYS, FORMAT, CHKDSK, DISKCOPY, SCANDISK.

SECTION – C

Introduction to Word processing:
Word processing concepts; General characteristics of Word Processing packages; using MSWORD, Editing and Formatting Features. Word Processing Package: Basics of Word Processing; Word Processing Basics; Opening and Closing of documents; Text creation and
Manipulation; Finding and replacing text, Printing of word document, Formatting of text; Margin setting, Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Working with tables, Spell checking, Grammar facility, Retrieving often used text; Auto text character formatting, language setting and thesaurus; Mail merging.

**SECTION - D**

**Introduction to Spreadsheet:**
Data Organisation concepts; using EXCEL including graphics facility. Mathematical and Statistical Functions; Absolute, Relative and Mixed Addressing.

Introduction to Spreadsheet data organization concepts, USING MS-Excel including graphics facility. Introduction to statistical packages i.e. stat-graphics. Mathematical and Statistical Functions; Absolute, Relative and Mixed Addressing.

**References :**

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<td>4</td>
<td>Harbraken, Joe : Learn MS-Office 2000 8 in 1, PHI.</td>
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<td>5</td>
<td>Taxali, R. K., 2002 : PC Software for Windows 98 made simple, Tata</td>
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**Paper C : Practical Based on Paper – A.**
Course Title : FORTRAN Programming.  
Course Hrs : 90

Subsidiary Course is being offered to :
1. Zoology, M.Sc. (H.S) 1st year
2. Biophysics, M.Sc.(H.S) 1st year
3. Biochemistry M.Sc. (H.S.) 1st year
4. Microbiology, M.Sc. (H.S.) 1st year

Scheme of Examination:

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<td>Paper B: FORTRAN Programming and Numerical Methods</td>
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<td>Paper D: Practical Based on Paper - B</td>
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Objectives : The course aims at familiarizing students with basics of FORTRAN Programming and Numerical Methods.

Paper B : FORTRAN Programming and Numerical Methods

Note :

i. The Question Paper will consist of five Sections A,B,C,D, and E comprising of total of **NINE** questions.

ii. Examiner will set **TWO** questions each in Sections A,B,C,D and **ONE** question in Section E. The Examiner will set 7-10 short answer type questions in Section E covering the whole syllabus.

iii. The students are required to attempt **FIVE** questions in all by selecting **ONE** question each from Section A,B,C,D and Section E is compulsory.

iv. All questions carry equal marks

**SECTION - A**

Problem solving on Computers using FORTRAN:
Concepts of algorithm and flow charting; features of FORTRAN Language - constants, variables, operators, expressions, control structures, arrays, subprograms & Sub-routines;

**SECTION - B**

Programming of statistical methods
Programming in FORTRAN for simple statistical methods (mean, standard deviation, regression line correlation); programming in FORTRAN for sorting, matrix multiplication.

**SECTION - C**

Numerical methods:
Computer Arithmetic; Bisection & Newton-Raphson Methods for solving algebraic equations;

**SECTION - D**


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<td>2.</td>
<td>RajaRaman, V., 1983</td>
<td>FORTRAN Programming, 2nd Ed.</td>
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<td>3.</td>
<td>RajaRaman, V., 2004</td>
<td>Computer Programming in FORTRAN 90 &amp; 95, PHI.</td>
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Paper D : Practical Based on Paper – B.