MANONMANIAM SUNDARANAR UNIVERSITY
TIRUNELVELI – 627 012
TAMILNADU, INDIA
NOV- 2020 ONLINE MODE OF EXAMINATION GUIDELINES

In the prevailing COVID-19 Pandemic situation, it is notified that the conventional method of conducting examination of regular/private & supplementary UG/PG/M.Phil students is not possible following the existing SOP issued by the Government of India/ Government of Tamilnadu. Subsequent to the directions of the Higher Education Department of Government of Tamilnadu, Manonmaniam Sundaranar University decided that online mode of examination shall be adopted as an alternative mode for the regular/private & supplementary UG/PG/M.Phil students for November 2020 examination.

The following guidelines are issued for the smooth conduct of the online mode of examination. Every students has to read and understand all the guidelines before the registration process for the examination.

EXAM SCHEDULE

The time table for November 2020 examination shall be as notified in the University Web Portal / Communicated to all The Principals of Affiliated Colleges / Heads of University Departments.

EXAM TIMINGS

Particulars	FN Session	AN Session
Downloading Question Paper	8.15 AM onwards	11.30 AM onwards
Exam Time Duration	9.00 AM to 12.00 NOON	12.15 PM to 3.15 PM
Uploading Answer Scripts	12.15 PM to 1.45 PM 2.00 PM to 3.30 PM	3.45 PM to 5.15 PM 5.30 PM to 7.00 PM

PREREQUISITE FOR THE STUDENTS

1. Desktop / Laptop with internet connectivity to download question papers and upload the answer scripts in PDF Format.
2. Software / app to convert the scanned/photographed images of all pages of the answer scripts into a single PDF file.
3. Students are advised to reside at home and take up the examinations.

LEVEL 1: REGISTRATION

1. One time self-registration to the University portal is mandatory for the Students who have registered for the November 2020 examinations/April 2020 Supplementary Examination for improvement.
2. Registration Portal will be available on msuniv.ac.in home page with a link

   msuniv.ac.in->Examinations->Online (or) http://www.msuobe.neoproctorexam.com from 12th December, 2020.
3. Students need to sign up by entering the **Examination Register Number** as login id. The password shall be their **Date of Birth** in the given format.
4. In case of any change in the Date of Birth, Candidates are asked to approach their respective colleges/ University Departments along with the proof for Date of Birth (Xth Mark Sheet / Birth Certificate / Aadhar Card).

LEVEL 2 : MOCK TEST

1. To make the Students familiar with the procedure of online mode of examination, a mock test will be conducted.
2. Mock examination Portal will be available in msuniv.ac.in home page with a link **msuniv.ac.in->Examinations->Online (or) http://www.msuobe.neoproctorexam.com** as detailed below.
3. The Mock test schedule is as follows:

Programme	Mock Test Date
UG III Year & PG II Year	10th December 2020
UG II Year & UG ,PG Private Students	11th December 2020
University Department Students	11th December 2020

4. The question papers given for mock test are only indicative and may not be taken as a version based on real online mode of examination.

LEVEL 3: PREPARING THE BLANK ANSWER BOOKLETS BEFORE THE EXAMINATION

1. **Students have to download**
   a) The Front page of the answer booklet for each and every examinations, she/he has registered.
   b) The format for the continuation pages for each examinations.
2. Candidates can download these two pages from the University Portal at any day / time from **12th December, 2020 (For all the courses of examinations).**
3. Students can write the examinations in **A4 ruled / plain paper in the Specified format** given.
4. Students should **prepare the answer booklet** with printout of the front page of the respective examination and required number of continuation pages, (as per the format) either as print out or handwritten **for all examinations**.
5. The maximum number of written pages shall be 40. Any answer which is written after 40 pages will not be valued.

LEVEL 4 : QUESTION PAPER DOWNLOADING

1. Question paper will be made available in the Online Mode examination portal in msuniv.ac.in home page with a link **msuniv.ac.in->Examinations->Online (or)** http://www.msuobe.neoproctorexam.com 45 minutes before the commencement of each examination.
2. If any difficulty in downloading the question paper arises, students may request the Online Exam Coordinator of their respective departments to get the same in their e-mail or mobile. However, the request of the students may be entertained only after verifying the nature of emergency.
3. Login into the university exam portal is mandatory both at the time of downloading the question paper and at the time of uploading the answer scripts.

LEVEL 5: WRITING THE EXAMINATION

1. The Students shall take up their online mode of examination by residing at home.
2. The total duration for writing the examination will be 3 hours.
3. Students shall use only Blue or Black pen for the examination.
4. Students need to put the signature in all the required places, wherever the provisions are given.

LEVEL 6: UPLOADING THE ANSWER SCRIPTS ON THE DAY OF EXAMINATION

1. After writing the examination, the students shall scan/photograph all pages of the answer script, including the front page and convert that into a single pdf file.
2. The students should ensure proper order of pages as per page numbers while converting the answer script into a single pdf file before uploading the answer script within a stipulated time.
3. Differently abled candidates who are exempted from the payment of examination fees by the university alone shall be given an additional one hour to write the examinations.
4. Before making the submission, the pdf file view will be provided to verify the content and the order of pages.
5. Once the answer script in the form of pdf file is submitted, no further changes can be made.
6. In case of emergency, When the students could not upload the answer script ,he/she can submit the answer script in the college of study / University Departments on the day of exam by following the procedure given below.
   a. The answer scripts should be placed inside a thick cover (Preferably A4 size Cloth lined cover). And, the cover should be pasted properly and signed by the students.
   b. The students should take two photocopies (Xerox) of the front page of the answer script
   c. The students should paste one copy of the front page in the cover.
   d. The students, in person, should reach the respective college of study / University Department with the ID card and shall submit the answer scripts. Representative of the students will not be permitted to submit the answer scripts on behalf of the students, whatever may be the reason.

e. The online exam coordinator of the college will verify the ID card of the students and then receive the packed answer script and sign the second copy of the front page as an acknowledgment.

f. The Students have to keep the acknowledgments for future reference.

g. All the standard operating procedures (SOP) issued by the Government of India / Government of Tamil Nadu in view of the COVID-19 pandemic situation must be followed. The students must cooperate with the college management in this regard.

h. The students who could not reach the College of study / University Department on the day of examination due to any unavoidable reasons, may post the answer script in A4 cloth lined cover through registered post / speed post / courier to "The Controller of Examinations, Manonmaniam Sundaranar University, Tirunelveli" on the same day. The students should keep the receipt of the post for future reference.

i. The students should maintain the PDF file of the answer script in either of the electronic storage option like CD, SD Card, Mail Box, Google Drive, etc. for addressing the discrepancies, if any, in the published results.

7. The students/coordinator of online exams should strictly adhere to the Standard Operating Procedure and the procedures given by the University for submission of written answer booklets.

LEVEL 7: FINAL SUBMISSION AFTER THE COMPLETION OF ALL EXAMINATIONS

1. After writing all examinations, the students should download the submission acknowledgement form from the university web portal and take print of it.

2. All original answer scripts should be submitted to the respective Colleges / University Departments, in person.

3. Coordinator of online exam should cross check the answer booklets and the acknowledgement form. The acknowledgement form should be return to the students with seal.

4. Those candidates whose residential address is out of the College / University Departments jurisdiction may send the cover with all answer booklets through Registered post / Speed Post / Courier to the respective College / University Departments.

LEVEL 8: ROLE OF THE COORDINATORS IN COLLEGES / UNIVERSITY DEPARTMENTS

1. The colleges/University Departments shall assign a Coordinator for smooth conduct of online mode of examinations. The Coordinator alone will be interacting with the office of the COE, MSU.

2. The Coordinators of colleges/ University Departments shall educate the students on the registration process and examination procedures.

3. The Coordinators of colleges/ University Departments shall encourage the students to download the question papers and upload the answer scripts through online mode, as far as possible.

4. Question papers will be send to the corresponding colleges/University Departments to their official mail id 45 minutes before the commencement of the examination.

5. In case of any difficulty, the questions can be send to students based on the nature of the request, through email or WhatsApp only.

Answer booklets received on the day of examination:

6. The Coordinator of the online examinations of the college/University Departments under emergencies shall accept the answer scripts submitted by students.

7. The answer scripts of the examinations of the same day alone are to be accepted.

8. Answer script submitted by any person other than the students should not be accepted in any circumstances.

9. The submitted answer script packet should be checked for its completeness with respect to A4 cloth line cover, Complete pasting of cover, Signature in all required places, Pasting of copy of the first page over the cover, etc.

10. The university will provide an SMS/Mail link to download and install a mobile app to the Coordinator of Online examinations of the college/University Departments

11. On accepting the answer script packet, the Coordinator of the college/University Departments should scan the bar code from the front page pasted on the cover using the mobile app provided by the university. This mobile app will help to maintain attendance entry and acknowledgement for the students.

12. After submission of the scanned bar code details through in the app, the Coordinator of the online examination of the college shall put the original signature with the official seal in the photocopy of the front page of the answer script (second photo copy kept by the students) and return it to the students as an acknowledgment for having received the answer script packet.

13. The College / University Departments have to arrange the individual answer booklet covers (not to be opened) submitted by their students, as date wise and subject wise bundles for valuation purpose.

The answer booklet received after completion of the examinations:

14. The College / University Departments have to open the Covers / Scripts submitted by their students after the completion of all examination and make Subject Code wise bundles.

Collection of answer scripts by COE Section:

15. The College / University Departments should handover the unopened bundles submitted by the students (on the day of examination) for valuation.

16. The College/University Departments should handed over the answer booklet submitted after the completion of all examination of the students with full details when COE section approaches the College/University Departments for collection of answer scripts. This bundles will be used for record purpose and for feature reference.

17. Answer Scripts collected as per Point 15 & 16 should be handed over separately.

For Further Clarification Contact:

1. Respective College Principal/Chief Superintendent/Co-Ordinator/Nodal Officer.

2. UG/PG Sections:

    Asst. Registrars-   Tmt. Sundari (9942831001);

    Mr. Thiagarajan (9442020755)

    B.A. – 04622563126, Mr.M. Esakkimuthu, Supdt.(9488678574)

    B.Sc -04622563127, Tmt. Josephinel,Supdt. 8903726639)

    B.Com-04622563135, Tmt. Visalatchi, Supdt. (9865246694)

    P.G.-04622563133, Tmt. A. Uma Maheswari, Jr.Asst. (9942592594)

    M.Phil-04622563133, Tmt. N.Devika, Jr.Asst. (8220136063)

3. Online Support: K. Madasamy- Sys.Programmer-9443424106;

    K. PalaniMurugan –Sys. Programmer- 9487302483

    E. Riyaz Mohemed -04622970155

    H. Jalish Rahuman – 8056997642;

    K. Muthukrishnan – 9597962068

4. Co-Ordination Section- 04622563121   1. A. Rajendran, A.R- 9486012253;

    2. S. Muthuarasan, Supdt- 9487651590.

5.Controller of Examinations – Dr. A. Suruliandi (9487902000)

CONTROLLER OF EXAMINATIONS

MANONMANIAM SUNDARANAR UNIVERSITY

Dr. R. MARUTHAKUTTI
REGISTRAR i/c

ABISHEKAPATTI
TIRUNELVELI - 627 012

Ref : MSU/R/BoS/LOCF/ Verification format / meeting / 2022/O-1834   04.05.2022

To

The Chairpersons of all the Board of Studies of UG & PG programmes of
Affiliated Colleges
M.S. University

Sir / Madam,

Sub: MSU – Designing of curriculum with LOCF guidelines and Bloom's
taxononmy – Check list format for fitting LOCF in curriculum – Sending -
reg.

*****

I am by direction to inform that, the committee constituted to study the LOCF
fitting in syllabus has of the Boards of University Departments and Affiliated Colleges have
prepared a check list format for fitting LOCF and is sent herewith for your action.

Hence, all the Chairpersons are requested to re work by fitting LOCF in
curriculum, based on the checklist and sent the final syllabus with LOCF fitting to the
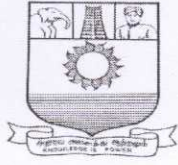undersigned on or before 6th May 2022.

Moreover, the Chairpersons are requested to attend the discussion meeting
with the members of the committee on any one of the days between 9th - 13th May 2022 to
finalize the curriculum.

 Usual TA , sitting fee and refreshment will be provided to the Chairpersons
of the Boards.

Kindly treat this as **MOST URGENT .**

Yours faithfully

REGISTRAR i/c

மனோன்மணியம் சுந்தரனார் பல்கலைக்கழகம்
MANONMANIAM SUNDARANAR UNIVERSITY
Abishekapatti, Tirunelveli 627 012
Reaccredited with "A" Grade by NAAC
Phone:0462-2338632, Fax:0462-2334363
e-mail: registrar@msuniv.ac.in; Website:www.msuniv.ac.in

Dr.G.ANNADURAI
REGISTRAR-in-charge

Ref: MSU/R/BoS/UG –B.Com/Appointment/Mtg./2023/O-144   15.03.2023

To

1	Dr.N. Maria Nevis Soris,VOC College	Chairperson
2	Dr.K.V. Soundara Raja Principal , Ambai Arts College	Member
3	Dr.R.S. Thangeswari,Kamaraj College, Tuticorin	Member
4	Dr.K. Annamalaisamy,J.P.College of Arts & Science	Member
5	Dr. Daniel David Anna Raj,St. John's College,Palayamkottai	Member
6	Dr.P.Banumathi, St.Mary's College (Autonomous)	Member
7	Dr.V.Muthukumar, Madras Christian College	External Expert
8	Dr.M.Selvakumar, Ayya Nadar Janaki Ammal College	External Expert
9	Dr. R. Kasilingam, Pondicherry Central University,	External Expert
10	Dr. V. Arul Murugan, Pondicherry Central University	External Expert
11	Dr. Shanthi, University of Madras, Madras	External Expert
12	Mr. Jeba Suresh, Manager, Ideal Cookware, Abishekapatti, Tirunelveli	Industrialist
13	Mrs. Ramya,III B.Com, Women's Christian College, Nagercoil	Meritorious
14	Dr. B.Revathy, Department of Commerce, M.S.University,	Ex-Officio

Sir/Madam,

Sub: MSU–Tenure of Board of Studies of Affiliated Colleges – Extension intimated - reg.
Ref: Syndicate Resolution dated 27.02.2023.

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In accordance with the resolution cited under reference, I am by direction to inform that, the term as Chairperson/Members of the existing **UG – B.Com., B.Com (Honours), B.Com. Corporate Secretaryship, B.Com. Professional Accounting, B.Com. Banking & Finance, B.Com. Banking & E-Commerce** Board of Studies of Affiliated Colleges has been extended until the new Board assume charge.

The **Chairperson** is an Ex-officio member of the **Standing Committee on Academic Affairs** as per the Manonmaniam Sundaranar University Act 1990, Chapter III, Section 22-Subsection 2(a) – Class I – Ex-officio Members (4).

Yours faithfully,

16.3.23

REGISTRAR i/c.

MANONMANIAM SUNDARANAR UNIVERSITY

Dr. R. MARUTHAKUTTI
REGISTRAR i/c

ABISHEKAPATTI
TIRUNELVELI - 627 012

Ref : MSU/R/BoS/LOCF/ Verification format / meeting / 2022/O- 1834   04.05.2022

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REGISTRAR i/c

PROGRAMME STRUCTURE

Semester	Class	Paper	Allotted Hours	Credits
I	I M.Sc. Mathematics	Core – 1, Algebra - I	6	4
		Core – 2, Analysis – I	6	4
		Core – 3, Analytic Number Theory	6	4
		Core – 4, Operations Research	6	4
		Core – 5, Ordinary Differential Equations	6	4
II	I M.Sc. Mathematics	Core – 6, Algebra - II	5	4
		Core – 7, Analysis – II	5	4
		Core – 8, Advanced Calculus	5	4
		Core – 9, Differential Geometry	5	4
		Core – 10, Research Methodology and Statistics	5	4
		Elective – 1 (Choose any one) : 1.1. Classical Mechanics 1.2. Partial Differential Equations 1.3. Python Programming-Theory	5	4
III	II M.Sc. Mathematics	Core – 11, Advanced Algebra – I	6	4
		Core – 12, Graph Theory	6	4
		Core – 13, Measure and Integration	6	4
		Core – 14, Topology - I	6	4
		Elective – 2 (Choose any one): 2.1. Algebraic Number Theory 2.2. Calculus of Variation and Integral Equations 2.3. Python Programming-Practicals	6	4
IV	II M.Sc. Mathematics	Core – 15, Advanced Algebra -II	5	4
		Core – 16, Complex Analysis	5	4
		Core – 17, Functional Analysis	5	4
		Core – 18, Topology - II	5	4
		Core – 19, Project	10	10
		Total	120 hrs.	90

- In Elective- 1, if 1.3. Python Programming-Theory is chosen then in Elective-2, 2.3. Python Programming-Practicals is Compulsory.

- Project credit is increased to create awareness on Research among students.

MSU/2020-2021/PG-Colleges/M. Sc. (Mathematics)/SEMESTER - II/ Course No. 11/Elective 1.3

Title of the Course   : **PYTHON PROGRAMMING** (75 Hours)

Course Objective   : To demonstrate Problem Solving Techniques, Algorithmic Problem Solving , Python introduction and Python functions.

Course Outcomes(COs)

On successful completion of the course, the students will be able to

	Course outcome	Cognitive Level
CO 1	Give mathematical model for real world problems	K-1, K-2
CO 2	Design algorithms for mathematical models, analyse the efficiency and correctness of algorithms.	K-4
CO 3	Design implementable programs in Python.	K-5
CO 4	Define and demonstrate the use of functions and looping using Python.	K-3
CO 5	Design and implement a program to solve a real-world problem.	K-5

K-1: Remembering; K-2: Understanding; K-3: Applying; K-4: Analyzing; K-5: Evaluating; K-6:Creating.

L	T	C	P
5	0	4	0

Course Description

Unit I: PROBLEM SOLVING TECHNIQUES

Problem solving Techniques – Algorithm, flowchart, pseudocode, programming; Algorithms: properties, quality (time, space); building blocks of algorithms - statements, state, control flow, functions, notation (pseudo code, flow chart, programming language)   (15 hours)

Unit II: ALGORITHMIC PROBLEM SOLVING

Algorithmic problem solving, simple strategies for developing algorithms (iteration, recursion), pseudocode for some Mathematical Problems – greatest of two numbers, print n natural numbers, greatest common divisor, fibonacci sequence upto n terms. Practical applications of algorithms.

    (15 hours)

Unit III: INTRODUCTION TO PYTHON

Introduction to Python, Python interpreter, Modes of Python Interpreter, Values and Data Types, Variables, Keywords, Identifiers, Statements and Expressions, Input and Output, Comments, Docstring, Lines and Indentation, Quotation, Tuple Assignment, Operators and Types of Operators, Operator Precedence.   (15 hours)

Unit IV: PYTHON FUNCTIONS

Functions, Types of function, Function definition (Sub program), Flow of Execution, Function Prototypes, Parameters and Arguments; Modules; Conditionals: Boolean values and operators, conditional (if), alternative (if-else), chained conditional (if-elif-else); Iteration: state, while, for, break, continue, pass; Fruitful functions: return values, parameters, local and global scope, function composition, recursion. (15 hours)

Unit V: STRING, LISTS, TUPLES IN PYTHON

Strings: string slices, immutability, string functions and methods, string module; Lists as arrays. Lists: list operations, list slices, list methods, list loop, mutability, aliasing, cloning lists, list parameters; Tuples: tuple assignment, tuple as return value. (15 hours)

Text Book:

Allen B. Dowley, "Think Python: How to Think Like a Computer Scientist", 2nd Edition.

Reference Books:

1. Wes McKinney, "Python for Data Analysis: Data Wrangling with Pandas, NumPy, and Ipython", O'Reilly, 2nd Edition, 2018.
2. Jake VanderPlas, "Python Data Science Hand Book: Essential Tools for working with Data", O'Reilly, 2017.
3. Wesley J. Chun, "Core Python Programming", Prentice Hall, 2006.
4. Mark Lutz, "Learning Python", O'Reilly, 4th Edition, 2009.

E-Books:

http://www.programmer-books.com/introducing-data-science-pdf/
http://www.CS.uky.edu/~keen/115/haltermanpythonbook.pdf
http://math.ecnu.edu.cn/~lfzhou/seminar/lJoel   Geusl   Datascience   from Scratch First Princ.pdf

Mapping:

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO 1	3	2	3	3	2	3	3	3	3	3
CO 2	3	2	3	3	2	3	3	3	3	3
CO 3	3	2	3	3	3	3	3	3	3	3
CO 4	3	2	3	3	3	3	3	3	3	3
CO 5	2	2	2	3	3	3	3	3	3	3

Strongly Correlated-3; Moderately Correlated-2; Weakly Correlated-1; No Correlation-0

PYTHON PROGRAMMING– PRACTICALS (90 Hours)

Objective: The aim of the paper is to give practical skill in Python Programming.

Prerequisite: Basic knowledge in C- Programming.

Outcome: Gained the skill of solving Mathematical problems using Python Programming.

Text Book:

1. Allen B. Dowley, **"Think Python: How to Think Like a Computer Scientist"**, 2nd Edition.
2. Wes McKinney, **"Python for Data Analysis: DataWrangling with Pandas, NumPy, and Ipython"**, O'Reilly, 2nd Edition, 2018.
3. Jake VanderPlas, **"Python Data Science Hand Book: Essential Tools for working with Data"**, O'Reilly, 2017.

Reference Books:

1. Wesley J. Chun, **"Core Python Programming"**, Prentice Hall, 2006.
2. Mark Lutz, **"Learning Python"**, O'Reilly, 4nd Edition, 2009.

LIST OF PRACTICALS IN PYTHON PROGRAMMING:

1. Find minimum/maximum in a list / guess an integer in given range
2. Distance between two points
3. Find GCD
4. Sum an array of numbers
5. Linear search
6. Binary search.
7. Find the numbers which are divisible by n in a given range
8. Print first n Fibonacci numbers
9. Selection sort
10. Insertion sort
11. Merge sort
12. Count word frequencies
13. Generate adjacency matrix of any graph on n vertices
14. Find degree of vertices from given adjacency matrix of the graph
15. Find odd number in given array/ Replace odd numbers with giveninteger in the given array
16. Compute multiplication of two 3x3 matrices

17. Compute mean and standard deviation of given array
18. Create a Bar plot/Pie chart for comparing three features