July Cycle (September-October) 2020-21 Internal Assessments

Second Semester / M.Sc.,

Karnataka State Open University

Mukthagangothri, Mysuru – 570 006

Website : www.ksoumysuru.ac.in

EPABX No.: 0821-2519948, 2519941, 2519943, 251995

M.Sc. Second Semester
July Cycle (September-October) 2020-21

Guidelines :

Under the notification of University Grants Commission (ODL) 2017, the evaluation, covers both internal assessment and term end examination. In the case of the former, the University are created continuous assessment for which primarily assignment system is followed. Assignment is given hereunder on the basis of the syllabus prescribed by the University. The questions relating to assignment are designed keeping in view the term end examination. Term end examination will be conducted at the end of the year of study as per calendar of events.

The continuous assessment comprises of assignment, seminar, test, field work etc., presently, the assignment is taken up, and its information are as follows.

- The students are hereby instructed to answer the questions by referring the text books, SLM, journals and others.
- Only hand written assignments are considered. The typed material or computer printouts are not considered under any circumstances.
- In case the study material is replicated in the assignments, they will be not considered for valuation.
- Write assignment of each course separately, using A4 Sheet.
- The students shall indicate their name, roll number, course, mobile number without fail.
- Keep the assignments in a single cover and superscribe it as Assignments for …….. (**Programme** Name).
- M.Sc., students shall submit the assignment to their respective departments. Address to send the assignments- The **Chairman (Concerned Department) Karnataka State Open University Mysuru-570 006**. **(M.Sc Students should not submit the assignments to any other Regional Centres)**

The students may feel free to contact any faculty member either in person or over phone. The contact numbers will be available in prospectus/website.

Important date for Submission of the Assignment

Sl No.	Assignment Number	Last Date of Submission
1	Assignment	15-03-2021

Dean (Academic)

Assignment topics for II Semester M.Sc. Chemistry (2020-21)

MCH-2.1 [Inorganic Chemistry-II]

1) Discuss the structure, properties and bonding types and their identification in metal nitrosyl and metal carbonyl compounds.
2) Briefly illustrate the optical properties of co-ordination compounds.

MCH-2.2 [Organic Chemistry-II]

1) Deduce the applications of zinc organometallic compounds in organic synthesis.

2) Illustrate the free radical reactions in organic chemistry with respect to site selectivity and stereochemistry.

MCH-2.3[Physical Chemistry-II]

1) Explain Le chatelier's principle. Write a note on Quantitative treatment of Le chatelier's principle.
2) Discuss the way of finding exact solution of wave equation using perturbation and variation methods.

MCH 2.4 [Analytical Chemistry]

1) What are titrimetric reactions? Discuss selecting and evaluating the end point in titrimetric analysis.
2) Explain the complexometric titration with EDTA. Discuss the significance of complexometric EDTA titration curve.

Note:

- All the questions are compulsory and each questions carry **10 marks.**
- Answer in A4 size paper (One side only).
- *Each course assignment should stippled separate bundle and in first page mention the name, register no (roll no) & course title.*
- Assignment should be sent to **Chairman,** Department of Studies and Research in Chemistry, Karnataka state open university, Mukthagangothri, Mysore-570006.

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M.Sc. Microbiology

Assignment topics for Second Semester M.Sc. Microbiology (2020-21 Batch)

Course- MB 2.1-Mycology and Phycology **Marks-1 X 10=10**

1. Asexual reproduction in fungi.
2. Association of fungi with plants: Mycorrhiza.

Course- MB 2.2 -Virology **Marks-1 X 10=10**

1. Phage typing and phage therapy
2. Assay of viruses: physical and chemical methods.

Course- MB 2.3-Microbial Metabolism and Physiology **Marks-1 X 10=10**

1. Nature of enzymes and mechanism of action.
2. Catabolism of lipids and proteins.

Course- MB 2.4-Analytical Techniques in Microbiology **Marks-1 X 10=10**

1. Spectroscopy: principle and application in microbiological analysis.
2. Introduction, history and applications of bioinformatics.

Instructions

- You can choose any one assignment topics from among the above topics for each course (paper).
- Assignment for each course (papers) should be submitted separately.
- Assignments should be hand written on A4 size paper and bound properly.
- **Course (paper) Title, Register number** and Name **of the candidate** should be clearly mentioned on each assignment.
- Assignment should be submitted to The Chairman, Department of Microbiology, KSOU, Mysuru-6, **on or before ----------**
- Second stage of Internal Assessment for 10 marks will be based on other academic activities conducted at the time of contact programme such as Seminar/ Test/ Field visit, etc.

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M.Sc. Geography
Assignment questions – 2020/21

Instructions: Answer any one from each course and each question carries 10 marks.

MSGE-201: Climatology

1. Explain the variation in seasonal distribution of pressure pattern over the globe.
   ಗೋಳದ ಮೇಲೆ ಒತ್ತಡ ಮಾದರಿಯ ಋತುಕಾಲಿಕ ಹಂಚಿಕೆಯ ವ್ಯತ್ಯಾಸವನ್ನು ವಿವರಿಸಿ.

2. What is an airmass? Explain the modification process of an airmass.
   ವಾಯುಧಾರೆ ಎಂದರೇನು? ವಾಯುಧಾರೆಯ ಮಾರ್ಪಾಡು ಪ್ರಕ್ರಿಯೆಯನ್ನು ವಿವರಿಸಿ.

MSGE-202: Oceanography

1. Illustrate the submarine topography of Indian Ocean.
   ಹಿಂದೂ ಮಹಾಸಾಗರದ ತಳ ಭೂಸ್ವರೂಪವನ್ನು ವಿವರಿಸಿ.

2. Explain the Geographical distribution of coral reefs in the world.
   ಪ್ರಪಂಚದಲ್ಲಿ ಹವಳದಿಣ್ಣೆಗಳ ಭೌಗೋಳಿಕ ಹಂಚಿಕೆಯನ್ನು ವಿವರಿಸಿ.

MSGE-203: Population Geography

1. Explain the stages of demographic transition model.
   ಜನಸಂಖ್ಯಾ ಆವರ್ತ ಸಿದ್ಧಾಂತದ ಹಂತಗಳನ್ನು ವಿವರಿಸಿ.

2. Discuss about determinants of mortality.
   ಮೃತ್ಯುತೆಯ ನಿರ್ಧಾರಕಗಳನ್ನು ಕುರಿತು ಚರ್ಚಿಸಿ.

MSGE-204: Development of Geographical Thought

1. Give an account of contributions of British School of Thought for the development of Geography.
   ಭೂಗೋಳಶಾಸ್ತ್ರದ ಬೆಳವಣಿಗೆಯಲ್ಲಿ ಬ್ರಿಟೀಷ್ ಚಿಂತನಾ ಶಾಲೆಯ ಕೊಡುಗೆಗಳನ್ನು ವಿವರಿಸಿ.

2. Write a note on application of quantitative techniques in various branches of Geography with examples.
   ಉದಾಹರಣೆಗಳೊಂದಿಗೆ ಭೂಗೋಳಶಾಸ್ತ್ರದ ವಿವಿಧ ಶಾಖೆಗಳಲ್ಲಿ ಪರಿಮಾಣಾತ್ಮಕ ತಂತ್ರಗಳ ಅನ್ವಯಿಕೆಯನ್ನು ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

MSGE-205: Cartograms and Weather Charts (Practical)

1. Write a note on thematic maps.
   ವಿಷಯಾಧಾರಿತ ನಕ್ಷೆಗಳನ್ನು ಕುರಿತು ಟಿಪ್ಪಣಿ ಬರೆಯಿರಿ.

2. Discuss the importance of weather maps.
   ಹವಮಾನ ನಕ್ಷೆಗಳ ಪ್ರಾಮುಖ್ಯತೆಯನ್ನು ಕುರಿತು ಚರ್ಚಿಸಿ.

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M.Sc. Physics

Assignment questions of 2nd Semester (2019-20: July Cycle)

Course MP 2.1: Classical Electrodynamics and Optics: (5 X 2=10)

1. i. Describe the properties of charge and fields as observed in different frames.
   ii. Discuss the transformation of electric and magnetic fields during relative motion.
2. Derive Clausius- Mossotti equation. Discuss the dispersion of electromagnetic waves in liquids and solids.

Course MP 2.2: Quantum Mechanics 1: (5 X 2=10)

1. Give an account of the failure of classical mechanics. Discuss the sequential Stern-Gerlach experiment and comment on its results.
2. Explain the first order and second order correction to the energy and wavefunction for the non-degenerate energy levels?

Course MP 2.3: Thermal Physics and Statistical Mechanics: (5 X 2=10)

1. Draw the phase diagram for water and derive the Clausius – Clapeyron equation.
2. i. State and explain the basic postulates of quantum statistical mechanics
   ii. Under what conditions does one get the classical limit of quantum description?

Course MP 2.4: Spectroscopy: (5 X 2=10)

1. Discuss the theory of spin-orbit interaction in hydrogen atom and obtain the spin orbit interaction energy.
2. i. Explain the rotational spectra of diatomic molecules using rigid rotator model.
   ii. Discuss about the structure studies by Raman spectroscopy. Also explain the advantages of Raman Spectroscopy over Infrared Spectroscopy.

****Instructions:***

- All topics are compulsory.
- Assignments should be hand-written on A-4 size paper and bound properly.
- **Register number and Name of the candidate** should be clearly mentioned the assignment.
- Assignment should be submitted to "The Chairman, Department of Studies in Physics, KSOU,Mysuru-6".

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DEPARTMENT OF STUDIES AND RESEARCH IN PSYCHOLOGY

M.Sc PSYCHOLOGY (SECOND SEMESTER) 2020

Internal Assignment Stage-I

Note: Answer any one question in each course. Each question carries 10 marks.

ಸೂಚನೆ: ಪ್ರತಿಯೊಂದು ಕೋರ್ಸ್‌ನಲ್ಲಿ ಯಾವುದಾದರು ಒಂದು ಪ್ರಶ್ನೆಗೆ ಉತ್ತರಿಸಿ. ಪ್ರತಿ ಪ್ರಶ್ನೆಗೆ 10 ಅಂಕಗಳು

COURSE - VI: CONTEMPORARY DEVELOMENTS IN PSYCHOLOGY
ಕೋರ್ಸ್ - VI: ಮನೋವಿಜ್ಞಾನದಲ್ಲಿನ ಸಮಕಾಲೀನ ಬೆಳವಣಿಗೆಗಳು

Describe Philosophical and Functional Contextualism.

ತತ್ವಶಾಸ್ತ್ರೀಯ ಮತ್ತು ಕಾರ್ಯಾತ್ಮಕ ಸಾಂದರ್ಭಿಕತೆಯನ್ನು ವರ್ಣಿಸಿ.

Or / ಅಥವಾ

Explain Scope and Origin of Forensic Psychology.

ನ್ಯಾಯಶಾಸ್ತ್ರ ಮನೋವಿಜ್ಞಾನದ ವ್ಯಾಪ್ತಿ ಮತ್ತು ಬೆಳವಣಿಗೆಯನ್ನು ವಿವರಿಸಿ.

COURSE - VII: PERSONALITY AND ADJUSTMENT
ಕೋರ್ಸ್ - VII: ವ್ಯಕ್ತಿತ್ವ ಮತ್ತು ಸಮಾಯೋಜನೆ

Explain the Determinants of Personality.

ವ್ಯಕ್ತಿತ್ವದ ನಿರ್ಧಾರಕಗಳನ್ನು ವಿವರಿಸಿ.

Or / ಅಥವಾ

Describe Trait theories of Personality.

ಗುಣವಿಶೇಷಣ ವ್ಯಕ್ತಿತ್ವ ಸಿದ್ಧಾಂತಗಳನ್ನು ವರ್ಣಿಸಿ.

COURSE - VIII: RESEARCH METHODS AND STATISTICS
ಕೋರ್ಸ್ - VIII: ಸಂಶೋಧನಾ ವಿಧಾನಗಳು ಮತ್ತು ಸಂಖ್ಯಾಶಾಸ್ತ್ರ

Explain the characteristics, sources and types of Hypothesis

ಪ್ರಾಕಲ್ಪನೆಯ ಲಕ್ಷಣಗಳು, ಮೂಲಗಳು ಮತ್ತು ವಿಧಗಳನ್ನು ವಿವರಿಸಿ.

Or / ಅಥವಾ

Describe the nature of Statistics and its role in Psychological Research.

ಮನೋವೈಜ್ಞಾನಿಕ ಸಂಶೋಧನೆಯಲ್ಲಿ ಸಂಖ್ಯಾಶಾಸ್ತ್ರದ ಸ್ವರೂಪ ಮತ್ತು ಅದರ ಪಾತ್ರವನ್ನು ವರ್ಣಿಸಿ.

COURSE - IX: PSYCHOLOGICAL TESTING AND ASSESSMENT
ಕೋರ್ಸ್ – IX: ಮನೋವೈಜ್ಞಾನಿಕ ಪರೀಕ್ಷಿಸುವಿಕೆ ಮತ್ತು ಮಾಪನ

Explain Aptitude, attitude, achievement and Cognitive tests.
ಅಭಿಕ್ಷಮತೆ, ಮನೋಭಾವ, ಸಾಧನಾ ಮತ್ತು ಸಂಜ್ಞಾನಾತ್ಮಕ ಪರೀಕ್ಷಣಗಳನ್ನು ವಿವರಿಸಿ.

Or / ಅಥವಾ

Explain writing specific types of Items.
ಅಂಶ ಬರವಣಿಗೆಯ ವಸ್ತುನಿಷ್ಠ ವಿಧಗಳನ್ನು ವಿವರಿಸಿ.

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M.Sc. in Environmental Science Second Semester Assignments

Instructions:

- The assignments consist of three questions in each course and attempt all the questions and each carries 5 marks.
- There will be compulsory Field visit during personal contact program (Carries 5 marks)

ES 2.1. Solid Waste Management

1. Describe the various Health hazardous due to Land Pollution
2. Write a Short note on a) Heating Values b) Refuse-derived fuel(RDF), c) Pyrolysis
3. Discuss in detail about the new approaches of waste management.

ES 2.2. Surface and Groundwater Hydrology

1. Explain the distribution of water on earth.
2. What are aquifer and aquitard? Mention the types of aquifers.
3. Justify the role of coliforms in determining water quality.

ES 2.3. Biodiversity and Conservation

1. Write a note on the strategies of biodiversity conservation.
2. Discuss about climate change and its impact on wildlife.
3. Write a brief account on the endangered mammals found in India

ES 2.4. Environmental Pollution and its Prevention

1. With a neat diagram, explain the use of 'Septic Tanks', for institutional sanitation
2. With a neat flow sheet, explain the various units and operations in a water treatment facility.
3. Discuss various methods to control the corrosion.

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Department of Studies and Research in Biochemistry
II Semester Internal Assignment Questions

INSTRUCTIONS: ***1. Submit own hand written assignments for each course separately (i.e. 4 assignments for 4 courses respectively).***
2. Each assignment is for 10 marks and should be written concisely (Maximum of 3 pages/question).
3. Submit the Assignments to -The Chairman, DOS in Biochemistry, before --/--/----.

BC 2.1: FUNCTIONAL BIOMOLECULES (01x10 = 10)

1. Explain the uses of carbohydrates in tissue engineering.
2. Mention the types of RNA and explain the clover leaf model of tRNA.

BC 2.2: ENZYMOLOGY (01x10 = 10)

1. Explain the catalytic mechanism of Alcohol dehydrogenase and Ribonuclease.
2. Describe the mechanism of protein degradation by ubiquitin pathway.

BC 2.3: BIOENERGETICS AND ADVANCED TECHNIQUES (01x10 = 10)

1. Give an account on the working principle of HPLC and RP-HPLC.
2. Describe the β-oxidation of fatty acids and its energetics.

*** Optional paper, answer any one course**

BC 2.4A: * MICROBIOLOGY (01x10 = 10)

1. Explain the physical and chemical methods of sterilization and disinfection.
2. Describe bacteria induced host transformation in plants with suitable example.

or

BC 2.4B: *BIOINFORMATICS AND BIOSTATISTICS (01x10 = 10)

1. Write a note on the followings.
   a) Gene Bank, b) NCBI, c) EMBL, and d) Genpept.
2. Describe non-parametric or distribution free methods. List out advantages, disadvantages and uses of non-parametric or distribution free methods.

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MSc Information Science II Semester
Assignment Questions

Note : Answer any one question from each course. Each question carries 10 marks.

IS 2.1- Computer Organization

1. Elucidate how different devices are likely to require different interrupt -service routines.
2. Analyze LRU replacement algorithm used in each of the mapping function in detail.

IS 2.2- Management Information System

1. What are the components of a system? How the system model improves from simple input process –output model to complex control model with an example.
2. What problems does the system analyst face in ascertaining the information requirement at the various levels of management? How are the problems tackled?

IS 2.3-Information Organization and Retrieval

1. Give significance of measures used for Information Retrieval system evaluation.
2. Narrate two examples of Multimedia systems based on RDBMS.

IS 2.4-Data Base Management System

1. Perform Select, Project, Cartesian Product, Rename, Union and Set difference operations for the tables given below.

Customer Table

Customer_name	Custermer_House_number	Custermer_Locality	Custermer_City	Custermer_State
Shiva	23	Indira Nagar	Bangalore	Karnataka
Kaveri	45	Saraswathi Puram	Mysore	Karnakata
Laloo	13	Gandhi Nagar	Patna	Bihar
Kumar	56	Balaji Nagar	Tirupati	Andra Pradesh

Branch Table

Branch_Name	Branch_City	Branch_Locality	Assets
Saltlake	Kolkata	Subhas Nagar	12000000
Redfort	Delhi	Puranadelhi	30000000
University	Mysore	Manasagangotri	1150000
Majestic	Bangalore	Gandhi Nagar	450000000

2. What is Schedule? Perform a serial schedule in which T1 is followed by T2. Let T1 transfer Rs 800 from A to B, and T2 transfer 40% of the balance from A to B.

IS 2.5 Practical 3: Information Organization and Retrieval

1. Open Iris dataset in ARFF format
- Choose J48 Classifier
- Choose the percentage split 66%
- How many instances are incorrectly classified?
-What is the Mean Absolute Error made by the classifier?
- Compare Recall and Precision Rates.

IS 2.6 Practical 4: Data Base Management System

1. Create a table to store information about Dussehra Festival celebration at Mysuru with the following database structure

Table name : Dussehra

Event ID	Event Name	Event Date	Event Place	No. of Participants

- Populate the table Dussehra with 5 rows:
- Write a query to select only Event ID, Event Name, and No of participants.
- Alter table by adding column by name Prize Winners.
- Write a query to delete a record with Event ID four

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DEPARTMENT OF STUDIES IN COMPUTER SCIENCE

MSc- Computer Science

Second Semester July cycle 2020

ASSIGNMENT QUESTIONS

Max Marks=20

Answer the following questions each questions will carry 10 mark each

Course :7 CS-2.1 Analysis and Design of Algorithms

1. Analyze the time complexity of insertion sort algorithm.
2. Explain the Prim's algorithm to solve minimum cost spanning problem.

Course :8 CS-2.2 DBMS

1. Describe the tree data structure.
2. Explain database design and querying tools supported by ORACLE.

Course : 9 CS-2.3 Linux Internals

1. Define the system call. Explain the classification of system calls.
2. Define process and explain context switch with an example.

Course :10 CS-2.4 Computer Networks

1. Explain with a neat diagram ATM protocol reference model with its planes.
2. Explain the design issues of data link layer and its services.

Course :11 CS-2.5 Practical-3 : ADA & DBMS

1. Write a program in ADA to illustrate Edge in a weighted graph.
2. Create a view, which contains employee names and their manager names working in sales department in DBMS

Course :12 CS-2.6 Practical-4: Linux Internals & Network Programming

1. To create a new partition of memory
2. Shared Memory concept

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M.Sc. IN CLINICAL NUTRITION AND DIETETICS II SEMESTER

Answer all questions, each question carries 10 marks

COURSE–V: NUTRTIONAL BIOCHEMISTRY

1. Explain the biosynthesis of lipids.
2. Elaborate on synthesis of purine and pyrimidines.

COURSE-VI: BASICS OF DIET THERAPY

1. Discuss the interrelationship between food, nutrition and health.
2. Explain the assessment of nutritional status of sick.

COURSE-VI: NUTRITION THROUGH LIFE CYCLE

1. Describe nutrition during pre-school age and school age.
2. Write note on malnutrition problems of adulthood and elderly.

COURSE-VIII: PUBLIC HEALTH AND MANAGEMENT OF DISEASES

1. Explain the infections caused through gastrointestinal tract and food borne illnesses
2. Describe Nutritional epidemiology.

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M.Sc., Mathematics, Internal Assessment
Second Semester (2019-20 Batch)

Note: Answer all the questions from each of the following courses. All questions carry equal marks.

Course: Math 2.1: Linear Algebra

1. Define a subspace. Let $\mathbb{R}$ be the field of real numbers and S be the set of all solutions of the equations $x + y + 2z = 0$. Then, show that S is a subspace of $\mathbb{R}^3$.
2. Define algebra of linear transformation. Explain the properties of algebra of linear transformation.
3. State and prove Cauchy Schwarz inequality and triangular inequality.
4. If V is n-dimensional vector space over a field F and $T \in A(V)$ has all its eigen values in F, then show that T satisfies a polynomial of degree n over F.

Course: Math 2.2: Real Analysis-II

1. Prove that a continuous function on a compact set is uniformly continuous.
2. State and prove criteria for integrability.
3. State and prove the First mean value theorem for Riemann- Stieltjes integrals.
4. State and prove Weierstrass approximation theorem.

Course: Math 2.3: Complex Analysis-II

1. State and prove Cauchy's residue theorem.
2. State and prove Harnack's inequality theorem.
3. Prove Legendre's duplication formula for gamma function.
4. State and prove Hadamard's theorem.

Course: Math 2.4: Numerical Analysis

1. Define the rate of convergence of an iterative method. Show that rate of convergence of secant method is 1.618.
2. Derive the Hermite interpolating polynomial.
3. Derive the trapezoidal method using the method of undetermined coefficients. Obtain the truncation error.
4. Explain the stability analysis of Euler method.

Course: Math 2.5: Operation Research

1. What is an Operation Research? Explain the steps involved in the solution of an Operation Research problem.
2. Explain the characteristics of LPP and write the application of LPP.
3. Explain mathematical formulation of the transportation problems.
4. Describe the Hungerian method of assignment problem.

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Department of Biotechnology
Assignment for II semester M.Sc. Biotechnology

First Stage

Course- BT 2.1 Molecular Genetics **Marks-10**

Give an account on Genome organization.

OR

Explain different DNA repair mechanisms

Course- BT 2.2 Molecular Biology **Marks-10**

Give an account of DNA replication in prokaryotes

OR

Explain Post translational modifications

Course- BT 2.3 Immunotechnology **Marks-10**

Write an essay on Complement system.

OR

Give an account of DNA vaccines

Course- BT 2.4 Advanced Techniques in Biotechnology **Marks-10**

Explain principle and procedure of Electron microscope.

OR

Give an account of DNA microarray

Instructions:

- Assignment should be submitted to **The Chairman, Department of Biotechnology, Mukthagangothri, KSOU, Mysore-6, on or before _____**
- Assignment for each course (papers) should be submitted separately
- Assignments should be hand written on A4 size paper and bound properly.
- On Each Assignment **Course (paper) Title, Register number** and **Name of the candidate** should be clearly mentioned

Second stage

- **Second stage** Assessment for 10 marks will be based on other academic activities conducted at the time of contact programme such as Seminar/ Test/ Field visit, etc.

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