SHREEMATI NATHIBAI DAMODAR THACKERSEY WOMEN'S UNIVERSITY
SHAHID VIRPATNI LAXMI MAHAVIDYALAYA, TITAVE
F.Y. B.Sc. Sem. – I

Part - I SEM-I, Examination: Nov.-2019.

Day and Date	Part	Subject Name	Time	Code	Marks
Monday 18/11/2019	I	Environment Science-Woman Issues	11.00 AM TO 1.00 PM	100101	50

Instructions: All questions are compulsory.

Q. 1) Attempt any Seven of the Following Questions in 150 words 14 Marks

1 biodiversity 2. EIA 3. Water pollution 4. Green House effect

5. Radiation Pollution 6. Eco tourism 7. Agriculture and Economy

8. Global Worming 9. Carbon Credits

Q. 2) Write Long Questions (Any two) 12 Marks

1. Explain air pollution and monitoring techniques
2. Discuss the Bioremediation concept and its application
3. Discuss the Concept and evaluation of Environment risk assessment.

Q.3) Describe any three of Following 12 Marks

1. Discuss climate change
2. Explain Waste water treatment
3. Definition and cause of wildlife deflection
4. Discuss Hazardous waste treatment and disposal.

Q.4) Write Short Question (Any three) 12 Marks

1. Explain the potable and Municipal sewage treatment.
2. Discuss the Management in India with emphasis on western Ghat.
3. Explain Forest Resources.
4. Explain any two sanctuaries.

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Part - I SEM-I, Examination: Nov.-2019.

Day and Date	Part	Subject Name	Time	Code	Marks
Thursday 21/11/2019	I	Zoology (Animal Diversity and Physiology)	11 am to 1 pm	105101	50

nstructions: All questions are compulsory.

Q. 1) Attempt any Seven of the Following Questions in 150 words 14 Marks

1 Parthenogenesis. 2. Cilia

3. Lungs 4. Double Circulation

5 Structure of neuron 6. Digestion

7. Characteristic of Protozoa 8. Double Circulation 9. Nephron

Q. 2) Write Long Questions (Any two) 12 Marks

1. Explain Metamorphosis in insects
2. Explain Reproduction in Poriferan
3. Explain Foot in Mollusca

Q. 3) Describe any three of Following 12 Marks

1. Parasitic adaptations in Helminthes
2. Canal System in Porifera
3. Shell in Mollusca's
4. Gills in Fish

Q. 4) Write Short Question (Any three) 12 Marks

1. Coral reefs in Coelenterata
2. Mammalian Brain
3. Modes of Nutrition
4. Water Vascular System in Starfish

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Part - I SEM-I, Examination: Nov.-2019.

ay and Date	Part/Sem	Subject Name	Time	Code	Marks
Thursday 22/11/2019	I/I	Zoology (Animal Diversity, Ecology and Biodiversity)	11 am to 1 pm	105102	50

structions: All questions are compulsory.

. 1) Attempt any Seven of the Following Questions in 150 words **14 Marks**

1. Food Chain 2. Energy Flow 3. Grass Land Ecosystem
4. Feet in Aves 5. Food Web 6. Characteristic of Aves
7. Definition of biodiversity
8. Type of Beaks 9. Characteristic of Aves

. 2) Write Long Questions (Any two) **12 Marks**

1. Benefits and Conservation of Biodiversity
2. Explain Parental Care in Amphibians
3. Explain Types of Ecosystems

).3) Describe any three of Following **12 Marks**

1. Food Chain and Food Web
2. Energy Flow
3. Adaptive Radiation in Reptiles.
4. Swim bladder in Fishes.

).4) Write Short Question (Any three) **12 Marks**

1. Biogeochemical Cycles: Water
2. Parental Care in Amphibians
3. Water Ecosystem
4. Factors affecting Biodiversity

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F.Y. B.Sc. Sem. – I

Part - I SEM-I, Examination: Nov.-2019.

Day and Date	Part	Subject Name	Time	Code	Marks
aturday 3/11/2019	I	Chemistry (Inorganic Chemistry)	11 am to 1 pm	102101	50

structions: All questions are compulsory.

Q. 1) Attempt any Seven of the Following Questions in 150 words **14 Marks**

1. Solvation
2. Ionic radii
3. Oxidizing agents
4. Electron affinity
5. Types of titrations
6. Electro negativity
7. Shapes of s, p, d orbital's
8. Volumetric apparatus
9. Atom

Q. 2) Write Long Questions (Any two) **12 Marks**

1. Explain Principle of Electronic Confirmation
2. Explain Trends in periodic table and application in predicting
3. Explain Theory of Internal External and Self Indictors for redox titration

Q. 3) Describe any three of Following **12 Marks**

1. Define the Tratation and its Types
2. Heisenberg uncertainty principle
3. Function in Bio systems of "S Block" Elements
4. Explaining the chemical behavior S Block

Q.4) Write Short Question (Any three) **12 Marks**

1. Bohr's atomic Model
2. Diagonal relationship of S Block
3. Elements Indicators used in pH Tratation
4. Explain Atomic Orbital and Give the Shape of Each Orbitals

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F.Y. B.Sc. Sem. – I

Part - I SEM-I, Examination: Nov.-2019.

Day and Date	Part/Sem	Subject Name	Time	Code	Marks
Monday 25/11/2019	I/I	Chemistry (organic Chemistry)	11 am to 1.00 pm	102102	50

Instructions: All questions are compulsory.

Q. 1) Attempt any Seven of the Following Questions in 150 words **14 Marks**

1. Chemical Bond 2. Isomerism 3. Molecular chirality 4. Arenas
5. Aromaticity 6. Hydrogen Bonding 7. Enantiomers
8. E and Z system 9. Molecular formula and Kekule structure of Benzene

Q. 2) Write Long Questions (Any two) **12 Marks**

1. Explain Isomerism and types of isomerism
2. Explain Polyhalogen Compounds
3. Explain General Pattern of the mechanism of Aromatic Compound

Q.3) Describe any three of Following **12 Marks**

1. Polymerization of alkenes with one example
2. Alkenes: Nomenclature of alkenes
3. Describe Markownikoff's rule
4. Describe D, L and R, S systems of nomenclature

Q.4)Write Short Question (Any three) **12 Marks**

1. Nomenclature of benzene derivatives
2. Homolytic and Heterolytic bond breaking
3. Physical properties and chemical reaction of alkanes
4. Mechanisms of dehydration of alcohols

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F.Y. B.Sc. Sem. – I

Part - I SEM-I, Examination: Nov.-2019.

Day and Date	Part	Subject Name	Time	Code	Marks
Tuesday 26/11/2019	I	Microbiology (Fundamentals of Microbiology)	11 am to 1 pm	107101	50

Instructions: All questions are compulsory.

Q. 1) Attempt any Seven of the Following Questions in 150 words **14 Marks**

1. Macro Nutrients 2. Preservation 3. Micro Nutrients 4. Prokaryotic cell
5. Micrometry 6. Micro Organism 7. Microbiology
8. Eukaryotic cell 9. Compound Microscope

Q. 2) Write Long Questions (Any two) **12 Marks**

1. Explain Major features of prokaryotic cell structure
2. Safety in Microbiology
3. Cultivation of bacteria and Fungi

Q.3) Describe any three of Following **12 Marks**

1. Explain Light Microscopy
2. Eukaryotic cell structure
3. Explain Nutritional requirements and its Types
4. Components of media

Q.4) Write Short Question (Any three) **12 Marks**

1. Classification of Nutrition
2. Explain Diversity in Microbial World
3. Distinguish between Prokaryotic and Eukaryotic Cell Structure
4. Explain History and scope of Microbiology

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Part - I SEM-I, Examination: Nov.-2019.

Day and Date	Part	Subject Name	Time	Code	Marks
Wednesday 27/11/2019	I	Microbiology (Applied Microbiology)	11 am to 1 pm	107102	50

Instructions: All questions are compulsory.

Q. 1) Attempt any Seven of the Following Questions in 150 words **14Marks**

1. Stain. 2. Filtration 3. Aseptic techniques 4. Sterilization
5. Disinfectants 6. DMC 7. Heavy metals
8. Isolation 9. Autoclave

Q. 2) Write Long Questions (Any two) **12 Marks**

1. Explain Staining techniques and its types
2. Explain Sterilization methods
3. Explain .Membrane filters and their types

Q.3) Describe any three of Following **12 Marks**

1. Gamma rays
2. Hot air
3. Cultural techniques
4. Chemical disinfectants

Q.4) Write Short Question (Any three) **12 Marks**

1. Explain Surface spread method and pour plate method
2. .Incubator
3. Explain Dyes and simple staining
4. Use of Counting Chamber

Department of Science Examination Nov-Dec 2022

Day&Date	Semester	Subject Name	Time	Code	Marks
Thursday, 15/12/2022	SEM-I	Environmental Science	11:00a.m. to 1.00 p.m.	100101	50

Instructions-Attempt All Questions.

Q.1 Attempt any seven of the following questions. **14**

1.The resources regenerated by natural processes are called....
a) Natural resources b) Synthetic resources c) Renewable resources d) None of these

2.Rainwater harvesting means .....water where it falls.
a)Catch b) fall c) All of these d) None of these

3.Earth is called .....
a)Planet b) water planet c) land planet d) all of these

4.Prevention and control measure ……
a)Reducing noise at source level c) Control along transmission path
b)Reduction at receiver level d) All of these

5.The removal of top soil from its place by various agencies like wind water etc is called .....
a) Wind erosion b) Gully erosion c) Soil erosion d) All of these

6.Greenhouse gases contain.....
a)Carbondioxide b) Methane c) Nitrous oxide d) All of these

7.Noise is .....sound in the wrong place at wrong time.
a) Wrong b) Right c) Both of these d) None ofthese

8.Consumer are also konwn as .....consumer.
a) Mono b) Macro c) Micro d)All of these

9.Earth is called .....palnet.
a) Green b) Blue c) White d) None of these

10.Increasing the .....to enhance the water hloding capacity of soil
a) Proper planning b) Management c) Green cover d) All of these

Q.2.Answer any two of the following question. **12**
a) Explain commercial energy resources?
b)Explain economic , social, cultural sustainability?
c) Explain in datail water pollutants and their sources?
d)Explain type of nonrenewable sources.

Q.3.Describe any three of the following **12**
a) Write note on deforestration.
b)Write note on environment protection act 1986.
c)Write note on noise pollution.
d) write note on soil erosion.

Q.4 Write an account an any three of the following. **12**
a) Write note on the water prevention and control of pollution act 1974.
b)Write short note on components of air.
c) Explain in detail soil pollution and explain there sources and effect.
d) Define biological resources and conservation of biological resources.

Bachelor of Science Examination :November/December- 2022

Day & Date	Semester	Subject Name	Time	Code	Marks
Monday (19/12/2022)	SEM-I	Animal Diversity & Physiology	11:00 a.m. to 1.00 p.m.	105101	50

Instructions- Attempt all Questions.

Q.1. Solve the Questions **14 Marks**

A) Attempt any **SEVEN** of the following Question .

1. Write examples of phylum celiophora?
2. which organism, shows holophytic nutrition ?
3. Which is malarial parasite?
4. which animal having a canal system ?
5. Polyp and medusa are found only in .....
6. Stinging cells are present in which phylum.....
7. Corals belong to which phylum.....
8. What is zoomastigophora?

Q.2 Answer any **Two** of the following Question . **12 MARK**

1 sketch and describe characteristics of Amoeba.

2 sketch and describe characteristics Sycon.

3 sketch and describe characteristics Hydra.

Q.3 Describe any **THREE** of the following **12 MARK**

1.write general characters of zoomastigophora?

2. write classification of phylum coelenterate?

3. General characteristics of phylum platyhelminthes

4. Describe class nematoda

Q.4 Write an account any **THREE** of the following **12 MARK**

1 Describe Nutritonal Mode-

2 Describe characters of Phylum Sarcodina.

3 Describe character of phylum Ciliophora.

4 Describe character of Phylum Porifera.

Bachelor of Science Examination: November/December- 2022

Day & Date	Semester	Subject Name	Time	Code	Marks
Tuesday (20/12/2022)	SEM-I	Animal Diversity,Ecology & Biodiversity	11:00 a.m. to 1.00 p.m.	105102	50

Instructions- Attempt all Questions.

Q.1 Attempt any **SEVEN** of the following Question . **14 Marks**

1. In- situ conservation two example.
2. Ex-situ conservation two example.
3. What phylum dose Aves belongs to?
4. How many species are in Aves ?
5. Which year forest conservation Act was paased ?
6. Which is largest ecosystem of the earth ?
7. A flying fish is…….
8. Viviparity is seen in……

Q.2 Answer any **TWO** of the following Question . **12 Mark**

1. Write an account Fish Migration.
2. Write an account parental care in Fishes.
3. Draw and labeled fig. of Labeo.

Q.3 Describe any **THREE** of the following **12 Mark**

1.write general characters Owl?
2. write classification of Aves?
3. General characteristics of Duck?
4. Types of Ecosystems?

Q.4 Write an account any **THREE** of the following **12 Mark**

1.Write a note on Energy flow?
2.Write a note on Food chain and Food web?
3. Write a note on Benefits of biodiversity and conservation ?
4. Write a note on Factor affecting of biodiversity?

Bachelor of Science Examination Dec 2022

Day & Date	Semester	Subject Name	Time	Code	Marks
Wednesday 21/12/2022	I	Inorganic Chemistry	11.00 a.m. to 12.00 p.m.	102101	50

Instructions- Attempt all questions.

Q.1 Fill in the blanks (compulsory) **14marks**

1) Spin Quantum Number---------- of Electron.
a)Energy b)Charge c)Spin d)Mass

2) Atomic radius (size) depends on _____

a) Number of shell b) effective nuclear charge c) screening effect d) all of these

3) Which of the following orbital is dumbell shaped?

a) s b) p c) d d) f

4) Which of the following is not a periodic properties?

(a) Atomic radius (b) ionization enthalpy(c) electron affinity (d) spectroscopic

5) General electronic configuration of elements of group 2(IIA)

(a) ns^{1-2} (b) ns^1 (c) ns^2 (d) ns^4

6) Spin quantum number accounts .....of electron.

(a) Energy (b) charge (c) spin (d) mass

7) Elements of first group are..... metals.

(a) Alkali (b) alkaline (c) transition (d) inner transition.

Q2. Answer any two of the following question. **12marks**

1) Write a note on principal Quantum Number?
2) Write the causes due to which lithium exhibit diagonal relationship with Mg.
3) Explain why electro negativity increases along the period and decreases, along the group increasing along the atomic number

Q3. Describe any three of the following. (I to IV) **12marks**

1) State and explain Heisenberg Uncertainty Principle
2) Give significance of Quantum number
3) Write Silent features of hydrides of S- Block Elements?
4) Write names, symbols and electronic configuration of 1/IA group elements or alkali metals & 2/IIA group elements or alkaline earth metals.

Q4. Write an account on any three of the following. (I to IV) **12marks**

1) Explain Bohr's postulates.
2) What is Titration? Write types of titration?
3) What is periodicity of element explain of the following ionization energy, electron affinity.
4) Define and explain electronic Configuration of the following elements: a) Zn , b) Sc ,c)O , d) C

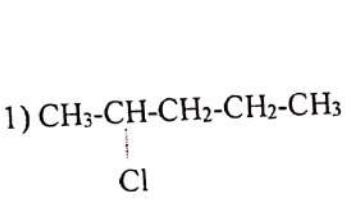
Bachelor of Science Examination November 2022

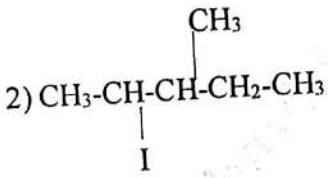
Day & Date	Semester	Subject Name	Time	Code	Marks
Thursday (22/12/2022)	SEM-I (Repeater/ Fresher)	Organic Chemistry	11:00 a.m. to 1.00 p.m.	102102	50

Instructions- Attempt all Questions.

Q.1. Attempt Any Seven. **14 Marks**

1. Define Aromatic Compounds.
2. Define Benzenoids
3. Define Haloalkanes
4. Give IUPAC name of following compounds



2) 

5. Draw Formulae of the compounds.
   1. 2-Bromo-3-Methyi butane
   2. 3-Bromo-chlorobenzene
6. Define Chemical bond
7. Give any TWO properties of Ionic Compounds.
8. Give Saytzeff rule
9. Write any TWO physical properties of alkane.

12 Marks

Q.2 Attempt any THREE

1. Give characteristics properties of Aromatic compounds.
2. Explain Physical properties of Haloalkanes
3. Explain reaction with metals of Haloalkanes
4. Explain any TWO chemical properties of alkanes.

Q.2 Attempt any TWO **12 Marks**

1. Explain any THREE chemical properties of alkenes.
2. What is heterolytic & hemolytic bond breaking. Explain types of electrophiles.
3. Give applications of Huckel rule with 4 examples.

Q.3 Attempt any THREE **12 Marks**

1. Explain Koble reaction with mechanism
2. Explain Corey-House reaction with mechanism
3. Explain preparation of chloroform & Iodoform.
4. What is covalent bond. Give properties of covalent bond.
5. What is Friedle craft's reaction.

Bachelor of Science (BSc.) Examination Nov-Dec 2022

Day & Date	Semester	Subject Name	Time	Code	Marks
Friday (23 /12/2022)	SEM-I	Fundamental Microbiology	11:00 a.m. to 12.00 p.m.	1001	50

1. **Attempt any seven of the following** **12 Marks**

I. Which of the following is used as a solidifying agent for media?

A. Beef extract
B. Agar
C. Peptone
D. Yeast Extract

II. Nutrient broth is turned into nutrient agar by the addition of what ?

A. Agar
B. Yeast Extract
C. Peptone
D. Beef Extract

III. Which of the following instrument is used for sterilizing the media after it has been prepared?

A. Needle
B. Autoclave
C. Laminar Air Flow
D. Incubator

IV. Which of the flowing is an range of Acidic PH

A. 7
B. 7-14
C. 1-6
D. 14-20

V. Which of the following is used for the proper maintenance and preservation of pure cultures?

A. blue Periodic transfer to fresh media
B. Preservation by overlaying cultures with mineral oil
C. Preservation by lyophilization
D. All of the Above

VI. Mac-Conkey medium is an example of

A. Diffrential Media
B. Enriched Media
C. Enrichment Media
D. None of the above

VII. ..... Media facilitate growth of only one kind of organism.

A. Enriched
B. Selective

C. Enrichment

D. None of the above

VIII. Yeast Extract is a rich source of .....

A. Vitamin A

B. Vitamin B

C. Vitamin C

D. Vitamin D

IX. Chocolate Agar is best For....

A. E.coli

B. Nesseria Gonorrhea

C. Streptococcus

D. None of the Above

X. Which is NOT involved in Non-Living Media

A. Natural Media

B. Synthetic Media

C. Semisynthetic Media

D. None of the Above

2. Attempt Any Two. **12 Mark**

a) Explain in details discovery of microbiology.

b) Explain in details Spread plate Techniques wirh Diagram

c) Explain in Details Non Living Media .

3.Attempt Any Three. **12 Mark**

a) Write a Note on Living Media

b) Explain Enriched Media with One Example

c) Explain in details Pour plate Techniques wirh Diagram

d) Write a note on Scope Of Microbiology .

4. Attempt Any Three **12 Mark**

a) Explain in details Spread plate Techniques wirh Diagram

b) Write a note on Nutritional types of microorganisms

c) Explain Differential Media with One Example

d) Write a Note on Culture Media And Its Components

Bachelor of Science (BSc.) Examination Nov-Dec 2022

Day & Date	Semester	Subject Name	Time	Code	Marks
Saturday (24 /12/2022)	SEM-I	Applied Microbiology	11:00 a.m. to 12.00 p.m.	1002	50

1. **Attempt any seven of the following** **12 Marks**

I. An agent that prevents the growth of bacteria are known as_____

A. Bactericide
C. Bacteriostatic
B. Antimicrobial
D. Antibiotic

II. Which of the following best describes a microbial control protocol that inhibits the growth of molds and yeast?

A. Bacteriostatic
C. Fungicidal
B. Bactericidal
D. fungistatic

III. Colouring property of the dye is due to……..

A. Auxochrome group
C. chromosome
B. Chromophore group
D. Cytochrome

IV. Albert's staining is also called as ...

A. Auxochrome Grp
B. Chromosome
C. Chromophore Grp
D. Cytochrome

V. The most common stains used in Gram staining is

A. crystal violet and methylene blue
B. crystal violet and Safranin
C. crystal violet and Carbol Fuschin
D. Safranin and Methylene Blue

VI. The Grams iodine used in Gram staining serves as a

A. Chelator
B. Catalyst
C. Mordant
D. Cofactor

VII. Which of the following is not an example of acidic stain ?

A. Picric Acid
B. CongoRed
C. India Ink
D. Basic Fuchsin

VIII. In cell wall staining by chance's method .....Works as a selective decolorizing agent

A. 0.5Per Congo red
B. 0.5Per New Fushcin
C. 0.1Per Congo red
D. 95Per Congo red

IX. Who firstly discovered the differential staining ?

A. Christian grams
B. Stearn
C. Louis Pasteur
D. Edward Jenner

X. Which is the following is type of differential staining ?

A. Acid Fast
B. Cell Wall
C. Alberts
D. None of the Above

2. Attempt Any Two. **12 Mark**

a) Explain in details Simple Staining With Mechanism
b) Tube dilution & Agar plate techniques with Diagrams
c) Explain Microscope and its Parts

3.Attempt Any Three. **12 Mark**

a) Properties of an ideal disinfectant.
b) Write a note on Types of Stain with Example
c) Write a note on Introduction & Procedure of Gram Staining
d) Write a note on Chemical methods of microbial control

4. Attempt Any Three **12 Mark**

a) Explain in details Introduction & Procedure of Cell Wall Staining
b) Write a note on Physical methods of microbial control
c) Explain Introduction & Procedure of Volutin Granule Staining
d) Write a Note on Biosafety in microbiology .