SHIVAJI UNIVERSITY, KOLHAPUR.

Accredited By NAAC with 'A' Grade

Revised Syllabus For

B. A. Part-III & B. A. B. Ed.
Sem VI

Geography (Practical)
(Advanced Tools, Techniques & Field Work in Geography)

CBCS PATTERN

(Subject to the modifications to be made from time to time)
Syllabus to be implemented from June 2020 onwards

Paper No. XIV (14)

Revised Syllabus for B. A. – III and B. A. B. Ed.

(Introduced from June 2020 Onwards)

Revised Syllabus for

B. A. Part III and B. A. B. Ed. Geography

DSE-E234 or Paper No. XIII (Practical Paper -I)

Sem-V

Title of Paper: Fundamentals of Map Making and Map Interpretation

Module – I: Introduction to Map and Scales: **Periods 50**

Marks 15

1.1 Map

1.1.1 Map: Definition and Elements

1.1.2 Classification of Maps: Based on Scale and Purpose

1.2 Scale

1.2.1 Meaning and Definition,

1.2.2 Methods of Representation of scale - Verbal, Numerical and Graphical.

1.2.3 Scale Conversion

1.2.4 Construction of Graphical Scale –

i) Simple (Plane Scale)

ii) Time and Distance Scale

iii) Diagonal Scale

Module II: Map Projection **Periods 50**

Marks 15

2.1 Definition, Classification of Projections:

a) Based on the methods of Construction: Perspective and Non-perspective

b) Based on Developable Surface used: Conical, Cylindrical, Zenithal, Conventional.

c) Based on Position of Tangent Surfaces: Polar, Equatorial (normal), Oblique.

d) Based on Position of view point or light: Gnomonic, Stereographic, Orthographic

e) Based on Preserved qualities: i) Equal area projection (Homolographic)

ii) Orthographic Projection

iii) Azumuthal Projection (True Bearing Projection)

2.2 Graphical Construction of the following Projections with Properties and Use:

i) Zenithal Polar Gnomanic Projection

ii) Zenithal Polar Equal Area Projection

iii) Simple Conical Projection with one standard Parallel

iv) Cylindrical Equal Area Projection

v) Mercator's Projection and Reference to Universal Transverse Mercator (UTM) Projection

Module – III : Identification, Mapping of Slope, Relief Features and Profiles

Periods 50

Marks 15

3.1 Slope and Gradient

3.1.1 Types of Slope: Gentle, Steep, Even, Uneven, Convex, Concave, Terraced.

3.1.2 Expression of Slopes: a) Gradient b) Degree c) Per Cent d) Mills

3.1.2 Representation of Relief by Contours: Hill, Mountain, Ridge, Cliff, Saddle, Plateau, Knoll, Spur, Col or Pass, Volcanic Col or Crater, Gorge, 'V' Shaped Valley, Waterfall, 'U' Shaped Valley, Cirque, Hanging Valley, Ria Coast, Fiord Coast, Sea cliff.

3.2 Profiles

3.5.1 Superimposed Profile

3.5.2 Composite Profile

3.5.3 Projected Profile

3.5.4 Longitudinal Profile

Module – IV : Topographical Maps **Periods 50**

Marks 15

4.1 Indexing of S.O.I. Topographical Map

4.2 Signs, Symbols and Colors used in SOI Toposheet

4.3 Interpretation of S.O.I.'s Topographical Maps any one of plain, plateau & mountain

a) Marginal Information

b) Physical environment: Relief, Drainage and Vegetation

c) Cultural environment: Settlements, Transportation and Communication, Irrigation.

d) Land Use

Module V: Weather Instruments and IMD Maps

Marks 20 **Periods 70**

5.1 Study of weather Instruments with reference to Principle, Mechanism, and Function

a) Thermograph
b) Barograph
c) Dry and Wet Bulb Thermometer
d) Cup Anemometer
e) Rain Gauge

5.2 Isobaric Patterns: Cyclone, Anticyclone, Col, Ridge, Secondary Depression

5.3 Signs and Symbols used in Indian Daily Weather Maps

5.4 Interpretation of Indian Daily Weather Maps any one Season

Marginal Information, Pressure, Winds, Clouds, Rainfall, Other Conditions, Sea Condition, Temperature departure from normal

Module VI : Representation Techniques of Statistical Data **Periods 30**

Marks 10

a) Divided Rectangle
b) Proportional Circle
c) Proportional Square
d) Choropleth Map
e) Dot Map
f) Isopleths

Module VII: Journal and Viva Voce

Marks 10

Note :

1. Use of stencils, log tables, computer and calculator is allowed.
2. Journal should be completed and duly certified by practical in-charge and Head of the Department.

Reference:

1. Bygoot, J: An Introduction to Mapwork and Practical Geography, University Tutorial,
2. London 1964.

SHIVAJI UNIVERSITY, KOLHAPUR.

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CHOICE BASED CREDIT SYSTEM

Syllabus For

B.Sc. Part - I
ZOOLOGY

SEMESTER I AND II

(Syllabus to be implemented from June, 2018 onwards.)

B. Sc. Part – I
ZOOLOGY PRACTICALS
Marks -50 **(Credits: 02)**

DSC– 15A and 16 A : LAB

1. Study of the following specimens:

i. Study of *Amoeba, Euglena, Plasmodium, Paramecium,* w.r.t. classification and locomotion

ii. Study of Sycon, *Hyalonema,* and *Euplectella, Obelia, Physalia, Aurelia, Tubipora, Metridium, Taenia solium,* Male and female *Ascaris lumbricoides, Aphrodite, Nereis, Pheretima, Hirudinaria, Palaemon, Cancer, Limulus, Palamnaeus, Scolopendra, Julus, Periplaneta, Apis, Chiton, Dentalium, Pila, Unio, Loligo, Sepia, Octopus, Pentaceros, Ophiura, Echinus, Cucumaria* and *Antedon,* w.r.t. classification and morphological peculiarities.

2. Study of the following :

i. T.S. and L.S. of *Sycon*,

ii. Life history *Taeni and Ascaris* and their parasitic adaptations.

3. Preparation of hemin and hemochromogen crystals.

4. Study Tour : Visit to Natural History Museum and submission of report.

DSC– 15Band 16B : LAB

5. Identification of ABO and Rh blood groups.

6. Cytological Preparations.:

Mitochondria – Stained preparation of mitochondria from onion peeling / Hydrilla leaf / Oral mucosa by using Janus Green B.

Polytene Chromosome – Stained preparation of Polytene chromosome in chironomous larva/ Drosophila larva.

7. Study of fossil evidences from plaster cast models and pictures.

8. Darwin's Finches with diagrams/ cut outs of beaks of different species.

9. Study of Mendelian Inheritance and gene interactions (Non Mendelian Inheritance) using suitable examples. Verify the results using Chi-square test, Study of Linkage, recombination, gene mapping using the data (Minimum 10 Examples on Mono, Dihybrid ratio, Incomplete dominance, Co-dominance, Multiple alleles, Sex linked inheritance, Linkage and Crossing over and Gene interaction).

10. Study of Human Karyotypes.

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Revised Syllabus For

Bachelor of Science

Part-II

ZOOLOGY

CBCS PATTERN

Syllabus to be implemented from

June, 2019 onwards.

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200 BSc 2

B. Sc. Part II

ZOOLOGY PRACTICAL-I

Marks-50 (Credits: 02)

PRACTICAL-I (Based on Animal diversity-II and Biochemistry of Semester-III).

Unit: 1

Animal diversity-II:

1. Study of the following specimens with reference to morphological peculiarities and classification upto orders: *Herdmania, Branchiostoma, Petromyzon, Sphyrna, Pristis, Torpedo, Labeo, Exocoetus, Anguilla, Ichthyophis/Ureotyphlus, Salamandra, Bufo, Hyla, Chelone, Hemidactylus, Chamaeleon, Draco, Crocodylus, Gavialis.* 2 to 22
2. Characters identifying venomous and non-venomous snakes: Russell's viper, Saw scaled viper, Common krait, Indian Cobra, Sea snake, Rat snake and Checkered keelback. 23 to 30
3. Study of any six common birds from different orders with the help of photographs and keys. - 31 to 37
4. Study of the following specimens with reference to morphological peculiarities and classification up to orders: shrews, Bat, Squirrel and Loris. 39 to 44

   An "**animal album**" containing photographs, cut outs, with appropriate write up about the above mentioned taxa. Different taxa/ topics may be given to students for this purpose.
5. Dissection of brain of fowl. - 45
6. Temporary preparation of hyoid apparatus, sclerotic plates, Pecten and Collumella of fowl. 46 to 49
7. Temporary preparation of Cycloid, Ctenoid and Placoid scales in fishes. 50 - 51

Unit: 2

Labeo / Scoliodon

Biochemistry:

1. Qualitative tests to identify functional groups of carbohydrates and lipid in given solutions (Glucose, Fructose, Sucrose, Lactose and Lipid). 52 to 54
2. Estimation of total protein in given solutions by Lowry's method/ Quantitative estimation of amino acids by using Ninhydrin reaction. 55 to 58
3. Study of activity of salivary Amylase under optimum conditions. 59
4. Effect of Temperature, pH and salinity of activity of salivary amylase. 60 to 62 - reduced
5. Estimation of total lipids from given sample. - reduced
6. DNA isolation from plant/animal. - reduced
7. Estimation of uric acid from bird excreta. - reduced

B. Sc. Part II

ZOOLOGY PRACTICAL-II

Marks-50 (Credits: 02)

PRACTICAL-II (Based on Reproductive Biology and Applied Zoology of Semester-IV).

Unit: 1

Reproductive Biology:

1. Study of animal house: set up and maintenance of animal house, breeding techniques, care of normal and experimental animals. 75,76
2. Examination of vaginal smear rats from live animals/Study of stages of estrus cycle through permanent slides. 77,78 - Reduced
3. Surgical techniques: principles of surgery in endocrinology. Ovarectomy, hysterectorny, castration and vasectomy in rats. Demonstration or film only. 79,80 84 Reduced
4. Examination of histological sections from photomicrographs/ permanent slides of rat: testis, epididymis and accessory glands of male reproductive systems; Sections of ovary, fallopian tube, uterus (proliferative and secretory stages), cervix and vagina. 85 to 87
5. Human vaginal exfoliate cytology. - 88 Reduced
6. Sperm count and sperm motility in rat/ Any mammal. - 88 to 91
7. Study of modern contraceptive devices by photographs or models. - 92 to 96

Unit: 2

Applied Zoology:

1. Study of arthropod vectors associated with human diseases: *Pediculus, Culex, Anopheles, Aedes* and *Xenopsylla.* - 97 to 101
2. Study of insect damage to different plant parts/stored grains through damaged products/photographs. - 102 to 108
3. Identifying feature and economic importance of *Helicoverpa* (*Heliothis*) *armigera, Papilio demoleus*, *Pyrilla perpusilla, Callosobruchus chinensis, Sitophilus oryzae* and *Tribolium castaneum.* - 109 to 118
4. Field trip to poultry farm or animal breeding centre or any suitable place to study animal diversity or any place related to theory syllabus. Submission of field trip report (Printed/Hand writings).

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Revised Syllabus For

B.Sc Part- III

Zoology

Syllabus to be implemented from

June, 2020 onwards.

SHIVAJI UNIVERSITY, KOLHAPUR
Syllabus of B.Sc. Part III Zoology
Zoology Practical – I (Credits-02)

Comparative anatomy and developmental biology of vertebrates

I. Comparative Study of following

1. V.S. of skin of vertebrates
2. Digestive system of vertebrates
3. Respiratory system of vertebrates
4. Heart of vertebrates
5. Brain of vertebrates
6. Osteology
   a) The skeleton of fowl (Disarticulated)
   b) The skeleton of rabbit (Disarticulated)
   c) Mammalian skull's – (any one herbivorous and one carnivorous animal)

II. Study of developmental stages of frog.

1. Cleavage
2. Blastulation
3. Gastrulation
4. Neurulation
5. Stages of metamorphosis in frog
   a. External gill stage
   b. Internal gill stage
   c. Forelimb stage
   d. Hind limb stage
   e. Tail bud stage
   f. Juvenile stage

III. Study of Chick Embryo

12. Whole mount of chick embryo – 18, 24, 33, 48 and 72 hours.
13. T.S. of chick embryo – 18, 24, 33, 48 and 72 hours.

VI. Preparation of whole mount chick embryo.

IV. Study of Histological structures of placenta (permanent slide or microphotographs)

1) Epitheliochorial
2) Endotheliochorial
3) Hemochorial
4) Syndesmochorial
5) Hemoendothelial

V. Examination of Gametes – Frog or Rat sperm & ovum through slides or microphotographs.

SHIVAJI UNIVERSITY, KOLHAPUR
Syllabus of B.Sc. Part III Zoology
Zoology Practical – II (Credits-02)

Applied Zoology – II and Immunology

Unit 1: Applied Zoology

1. Apiculture
   a. Casts of Honey Bees
   b. Bee Hive(Photographs or models)
   c. Pollen Basket
   d. Sting Apparatus
   e. Honey
   f. Newton's model of Bee Hive (Photographs or models)
   g. Bee keeping Equipments (Photographs or models)

2. Preservation & Artificial insemination in cattles
8. Pearl culture
   a. Species of oyster
   b. Process of Pearl formation: natural and artificial
   c. Importance of Pearl
9. Freshwater prawn culture
   a. Species of Prawn
   b. Site selection
   c. Farm Construction
   d. Production system
   e. Harvesting
10. Goat farming
   a. Breeds (any four = 2 Indigenous and 2 Exotic)
   b. Housing
   c. Feeding
6. Visit to goat farm or animal breeding centre – submission of visit report

B] Immunology

1. Study of lymphoid organ's (Photograph, Models, Videos)
2. Histological study of (slides or photographs)
   a. Spleen
   b. Thymus
   c. Lymph nodes
3. Preparation of stained blood smears to study various types of blood cells
4. Determination of ABO blood groups
5. Demonstration of
   a. ELISA
   b. Immuno-electrophoresis

C] Cell counting and viability test from splenocytes of farm breed animals / cell lines

SHIVAJI UNIVERSITY, KOLHAPUR
Syllabus of B.Sc. Part III Zoology
Zoology Practical – III (Credits-02)

Molecular biology, Animal biotechnology, Biostatistics & Biotechniques

I] Microtechnique

1. Preparation of permanent histological slides by HE technique
2. Histochemical technique
    a. AB PH 1 technique
    b. AB PH 2.5 technique
    c. PAS technique

II] Biotechniques

1. Chromatography – Separation of amino acid by paper chromatography
2. DNA isolation
3. Demonstration of DNA by feulgan technique
4. To study the following technique (photographs)
    a) Southern blotting
    b) Northern blotting
    c) Western blotting
    d) DNA sequencing (Sangers method)
    e) PCR
    f) DNA fingerprinting

III) Biostatistics

Any 10 example based on theory

IV] Project (any suitable work possible in local area or from the syllabus) Report of the same to be submitted at the time of practical examination

SHIVAJI UNIVERSITY, KOLHAPUR

Syllabus of B.Sc. Part III Zoology

Zoology Practical – IV (Credits-02)

Aquatic biology, insect vector & diseases

A] Aquatic biology

1. Determination of area of a lake using graphimetric & gravimetric method
2. Identify the zooplanktons present in lake ecosystem
3. Determination of turbidity or transparency from nearby lake or water body
4. Determination of dissolved oxygen
5. Determination of free CO_2
6. Determination of alkalinity (Carbonates & bicarbonates) from water collected from nearby lake or water body
7. Estimation of total hardness of water
8. Instruments used in limnology & their significance
   a) Secchi disc
   b) Van Dorn bottle
   c) Conductivity meter
   d) Turbidity meter
   e) PONAR grab sampler
9. Visit to seashore/water reservoir/animal sanctuary to study animal diversity. Report of tour should be submitted at the time of practical examination
10. Endocrine glands (Anatomy and Histology) – Thyroid, Parathyroid, Adrenal and Pancreas.

B] Insect Vectors & diseases

10. Study of different kinds of mouthparts of insects
    a) Chewing & biting
    b) Chewing & lapping
    c) Piercing & sucking
    d) Sponging
    e) Siphoning
11. Study of following insect vectors through permanent slides or photograph
    a) Insect vector – Mosquito, sandfly & housefly
    b) Study of mosquito born diseases – Malaria, dengue, chikungunya, encephalitis, filariasis
    c) Study of sandfly born diseases – Visceral leishmanians, Cutaneous leishmanians, Phlebotomus fever
    d) Study of housefly born diseases – Myiasis
    e) Study of flea born diseases – Plague, typhus
12. Histology of Following mammalian organs-
    a) Tooth (V.S.) b) Tongue c) Salivary gland d) Stomach e)Duodenum f) Ileum g) Liver h) Pancreas i) Kidneys

Shivaji University, Kolhapur
Bachelor of Computer Applications (BCA)
Draft CBCS Course Structure to be implemented from June 2020
Syllabus

1. Introduction:

Bachelor of Computer Application (3years) program / degree is a specialized program in Computer Applications. It builds the student on studies in applied use of computers and to become competent in the current race and development of new computational era.

The duration of the study is of six semesters. which is completed in three years. The program is based on Choice-based credit system comprising 144 credit points and intake for one batch is not more than 80 students.

2. Objective:

BCA offers the prequalification for professionals heading for smart career in the IT field. which measures up to international standards. On completing this course one can do higher studies such as MCA. MBA etc.. in any UGC recognized universities or in

Course Code: CCL 106	Lab Course –I Based on CC102	Credits: 02	Marks : 50
Course Outcomes	After completion of this course students will be able to - 1. Understand and trace the execution of programs written in C language. 2. Write the C code for a given algorithm 3. Implement Programs with pointers and arrays, perform pointer arithmetic and file handling.		

	List of Practical's:
Sr. No.	Description
1	Write a program to accept 5 subject marks and calculate total marks, percentage and grade of student.
2	Write a program to input a number and find the given number is Odd or Even
3	Write a program to input the day number and display day of week
4	Write a program to find the sum of first n natural numbers.
5	Write a program which display following output- A B C D E A B C D A B C A B A
6	Write a program to accept the range and generate Fibonacci Series.
7	Write a program to find given number is Armstrong or not
8	Write a program to find prime numbers between given range
9	Write a program to sort the numbers in ascending and descending order using array.
10	Write a program to add two Matrices. Use two Dimensional arrays

Shivaji University, Kolhapur

Revise Syllabus of
Bachelor of Computer Application (BCA)
(Under the Faculty of Commerce)
w.e.f. Academic year 2014-15 and onwards
BCA Part - II
(Semester III & IV)

Paper No.	Semester - III	Paper No.	Semester - IV
301	Cost Accounting	401	Entrepreneurship Development
302	HRM	402	Organizational Behaviour
303	System Analysis & Design	403	DBMS using MS-Access.
304	Object Oriented Programming with C++	404	Web Technology
305	Computer Oriented Statistical Methods	405	Computer Mathematics
306	Lab Course Based on Paper No. 304	406	Lab Course Based on Paper No. 403 & 404
307	Lab Course Based on Paper No. 305 (Using MS-Excel)	407	Mini Project.

Software testing strategies - Unit testing, integration, testing, Validation testing, System testing, debugging Maintenance - Problems with maintenance, Structured and unstructured maintenance, organizing for maintenance, maintenance side effects.

Reference Books:-

1) System analysis and design - Perry Edwards Mc Guraw Hill international Education.

2) Software Engineering - A practitioners approach - Roqerr pressman (Mc Graw Hill Series)

3) System Analysis and Design - Elias M. Awad

4) Engineering MIS for Strategic Business Process - Arpita Gopal

5) Analysis and Design of Information System - James A Sen.

Sem-III

Paper No. 304

Object Oriented programming with C++

Lab Course based on paper No. 304

Unit 1: Programming with C++

Introduction, Data types, Constants & variables, arrays, Operators, Operator precedence, Control structures, (selective and iterative) inline function, function overloading.

Unit 2: Introduction to object oriented programming;

Basic concept of OOP, Benefits and futures, class-Def, syntax, member function and data members, Access specifies static data member, defining objects, array of object friend function, object as function argument friend class.

Unit 3 : Constructor, destructors, & inheritance constructor- Definition, syntax, rules, types of constructors- decant, parameterized, copy, multiple constructors, destructor- definition, syntax, use and working, inheritance: meaning, types- single, multi level multiple.

Unit 4: Polymorphism and file handling

Polymorphism: Meaning, compile Time and Run time, virtual functions, pure virtual function, file, classes for file stream operations, opening and classing files, modes, file pointers, input- output operations, get ( ) Put ( ), read ( ) Write ( ).

SHIVAJI UNIVERSITY, KOLHAPUR

"A" Re-Accredited By NAAC

(2014) with CGPA-3.16

Revised Syllabus For

Bachelor of Computer Applications

Semester – V and VI

(Under Faculty Of Commerce)

Syllabus to be implemented from June 2015-16 onwards.

B.C.A. Part – III (Sem- V)

Paper No. 506: Lab Course based on 504 and 505

Lab exercise based on paper 504- RDBMS with Oracle

1. SQL queries on DDL statements.
2. SQL queries on DML statements.
3. SQL queries on Operators-relational, Logical, Like, Between, IN operator
4. SQL queries on Oracle Functions and clauses
5. SQL queries on Join
6. Creating Views and index
7. PL-SQL block on branching statement.
8. PL-SQL block on looping statement.
9. PL-SQL blocks to create explicit cursor.
10. PL-SQL blocks to study attributes of explicit cursor.
11. PL-SQL blocks to create Trigger.

B.C.A. Part – III (Sem- V)
Paper No 507: Mini Project

The group of students may undertake a software project in consultation with the internal guide. The group size should not exceed four students. The student is expected do project in any language studied in Vth or earlier Semesters. The mini Project will be evaluated by the external examiners appointed by University. Project documentation format is as per paper no 607.

B.C.A. Part – III
(Sem- VI)
Paper-No-605: Lab Course based on Paper no.- 603

Practicals-

1. Login , logout procedure (user/ login name and password)
2. Copy, move, delete files form different directories.
3. Change file access permissions using chmod and confirm using ls –l command
4. Use of filter commands
5. Creating text files using VI editor.

Shell scripts-

1. Shell script to get any number and display its square , cube sum of its digits
2. Use of command line arguments in a script.
3. Script using if statement.
4. Script handling use of case structure.
5. Scripts with command substitution such as to count number of files, number of users working on Linux network etc,

B.C.A. Part – III (Sem- VI)
Paper No 606: Lab Course based on Paper no. 604

Sample programs

1. Java programs based on command line arguments
2. Java programs based Type Casting
3. Java programs based on branching and looping statements
4. Java programs based on constructors
5. Java programs based on method overloading
6. Java programs based on interfaces
7. Java programs based on inheritance
8. Java programs based on packages
9. Java programs based on multithreading
10. Java programs based on exception handling
11. Java programs with applets

B.C.A. Part – III

(Sem- VI)

Paper No 607: Major Project

A group of maximum four students prepare a major project under the guidance of internal teacher. Project report will be evaluated by the internal teacher out of 20 marks and there will be viva-voce examination for 80 marks.(Documentation – 20 Marks, Online Presentation-- 30 Marks, Viva-Voce -- 30 Marks.) The panel for viva-voce examination will be appointed by university. The student should prepare the project report on the work carried out as a project in semester VI.

Guidelines for Project:

Number of Copies: The student should submit two Hard-bound copies of the Project Report.

Acceptance/Rejection of Project Report:

The student must submit an outline of the project report to the college for approval. The college holds the right to accept the project or suggest modifications for resubmission. Only on acceptance of draft project report, the student should make the final copies.

Format of the Project Report:

The student must adhere strictly to the following format for the submission of the Project Report.

a. Paper:

The Report shall be typed on white paper, A4 size, for the final submission. The Report to be submitted to the must be original and subsequent copies may be photocopied on any paper.

b. Typing:

The typing shall be of standard letter size, 1.5 spaced and on one side of the paper only. (Normal text should have Arial Font size 11 or 12. Headings can have bigger size)

c. Margins:

The typing must be done in the following margins:

Left -----1.5 inch, Right ----- 1 inch

Top ----- 1 inch, Bottom ----- 1 inch

d. Front Cover:

The front cover should contain the following details:

TOP : The title in block capitals of 6mm to 15mm letters.

CENTRE: Full name in block capitals of 6mm to 10mm letters.

BOTTOM: Name of the University, Course, Year of submission -all in block capitals of 6mm to 10mm letters on separate lines with proper spacing and centering.

SHIVAJI UNIVERSITY, KOLHAPUR.

Estd. 1962

NAAC 'A' Grade

Faculty of Commerce and Management

Syllabus For

B. Com. Part – III (Sem V & VI) (CBCS)

(To be implemented from June 2020 onwards)

(Subject to the modifications that will be made from time to time)

B.Com (CBCS) Part-III (Semester-V)
Paper – I : DSE-A1 : Advanced Accountancy
Discipline Specific Course

4 Credits

Course Outcomes:

1. Practice the preparation of financial statements of banks.
2. Demonstrate accounting for farms and hire purchase system.
3. Simulate accounting situations of insurance claim.
4. Explain the accounting process on Tally with GST.

Syllabus Content

Unit- I	Bank Final Accounts (Vertical Format Only)	20 Lectures
Unit- II	a) Farm Accounting	10 Lectures
	b) Hire purchase system-Excluding Hire purchase Trading Account	10 Lectures
Unit- III	Insurance Claim- Loss of stock and Loss of profit policy	10 Lectures
Unit- IV	GST Accounting with practical's using Tally part – I	10 Lectures

Theory

Introduction to GST on Goods, Introduction, Indirect Taxation prior GST, GST Implementation in India, Why GST was introduced in India? Understanding GST Taxation System, Dual GST, Structure of GST, Determination of Tax, Registration, GSTIN Structure, Businesses Liable to Register under GST, Tax Invoice, Bill of Supply, Supplementary Invoice, Input Tax Credit Set Off, GST Returns, Payment of Tax.

Practical:

a) Getting Started with GST (GOODS) in Tally ERP 9, Basic Concepts in GST, Configuring GST in Tally. ERP 9, Company Setup, Enabling Goods & Services Tax (GST),
b) GST Classifications, Creating Masters, Creating Purchase Ledger, Creating Sales Ledger, Creating GST Ledger, Creating Party Ledger, Creating Stock Items
c) Entering Transactions, Creating Purchase Invoice with GST, Creating Sales Invoice with GST, Printing Sales invoice
d) GST Reports, GST Tax Payment

Reference Books:

1) Gupta, S. C.; Gupta, M. P.; Shukla, M. C.; Agrawal, B. M. and Grewal, T. S. (2019). Advanced Corporate Accounting, S. Chand & Company, New Delhi

B.Com (CBCS) Part-III (Semester-VI)
Paper- III : DSE-A3 : Advanced Accountancy
Discipline Specific Course

4 Credits

Course Outcomes:

1. Practice the preparation of financial statements of banks.
2. Demonstrate accounting for farms and hire purchase system.
3. Simulate accounting situations of insurance claim.
4. Explain the accounting process on Tally with GST.

Syllabus Content

Unit- I Elements of Cost - Material, Labour, & Overheads, Preparation of Cost Sheet, Quotation — 10 Lectures

Unit- II **Financial Statement Analysis:** — 20 Lectures

a) Financial Statement Analysis- Meaning, types, Limitations of financial statements, Meaning and Need of financial statement analysis and Techniques of financial statement analysis.

(b) Ratio Analysis– Meaning, Advantages and Limitations, Classification of Ratios- Profitability Ratios, Turnover Ratios, Solvency Ratios and Liquidity Ratios.

Unit- III **Cash Flow Analysis:** — 15 Lectures

Meaning of Cash Flow Analysis, Classification of Cash flows- Cash flow from Operating Activities, Cash flow from Investing Activities and Cash flow from Financing Activities, Cash and Cash equivalents, Extra-ordinary items, Preparation of Cash Flow Statement (As per AS-3)

Shivaji University, Kolhapur
B.Com (CBCS) Part-II (Semester-III)
Corporate Accounting Paper - I
Core Course
Introduced from June-2019-20

4 Credits

Course Outcomes:

1. Explain the accounting entries of issue and forfeiture of shares and re-issue of forfeited shares, discuss accounting treatment for redemption of preference shares and buyback of shares.
2. Demonstrate accounting for issue of debentures and redemption of debentures.
3. Simulate practice of preparing financial statements as per the provisions of Indian Companies Act 2013.
4. Practice the fundamental accounting process on Tally ERP.

Syllabus Contents

Unit I: Issue and forfeiture of shares, Re-issue of forfeited shares, Redemption of preference shares and Buyback of shares. (15 Periods)

Unit II: Issue and Redemption of Debentures (10 Periods)

Unit III: Preparation of Final Accounts of Companies. (15 Periods)

Unit IV: Practical of Fundamental Computerised Accounting (20 Periods)

a) Introduction to Tally ERP.9, Technological Advantages, Getting Functional with Tally ERP.9, Tally ERP.9 Start-up, Mouse/Keyboard Conventions, Switching between Screen Areas, Quitting Tally ERP.9, Setting up of Company in Tally ERP.9,
b) Create a Company- Select a Company, Alter a Company, Shut a Company, Creating Accounting Masters in Tally ERP.9, Chart of Accounts,
c) Pre-defined Groups of Accounts, Groups- Creating Single Group, Creating Multiple Group, Displaying Group, Altering Group,
d) Ledgers, Creating Single Ledger, Creating Multiple Ledger, Displaying Ledger, Altering Ledger, Voucher Entry in Tally ERP.9,
e) Accounting Vouchers- Contra Voucher (F4), Payment Voucher (F5), Receipt Voucher (F6), Journal Voucher (F7), Purchase (F9), Sales (F8), Debit Note (Ctrl + F9), Credit Note (Ctrl + F8),
f) Financial Statements- Balance Sheet, Profit & Loss A/c., Trial Balance,
g) Accounting Books and Registers- Cash Book, Bank Book, Purchase Register, Sales Register, Journal Register, Debit Note Register, Credit Note Register and Day Book.

Notes:

1) College should make a provision of necessary computers and accounting software for commerce department to train the students in Computerised Accounting as prescribed in the syllabus.
2) A visit should be arranged for increasing awareness of students regarding Corporate Accounting either in any Company Office or the Office of any Chartered Accountant/ Professional Accountant.

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CHOICE BASED CREDIT SYSTEM

Syllabus For

B.Sc. Part – I

Computer Science (Optional)

SEMESTER I AND II

(Syllabus to be implemented from June, 2018 onwards.)

Practical Experiments:

Based on Based on DSC-11A And DSC-11B .

1. Write a menu driven program to convert the given temperature from Fahrenheit to Celsius and vice versa depending upon user's choice.

2. WAP to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following criteria :

Grade A: Percentage >=80

Grade B: Percentage >=70 and <80

Grade C: Percentage >=60 and <70

Grade D: Percentage >=40 and <60

Grade E: Percentage <40

3. Write a menu-driven program, using user-defined functions to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user.

4. WAP to display the first n terms of Fibonacci sequence.

5. WAP to print palindrome numbers between given range.

6. WAP to find sum of the following series for n terms: 1 – 2 2! + 3 3! - - - - - n n!

7. WAP to sort given array in ascending as well as descending order.

8. WAP to calculate the sum and product of two compatible matrices.

9. WAP to check whether a given number is prime or not using nested function by introducing factorial function. P is prime number if and only if (P-1)! – 1 is divisible by P.

10. WAP to calculate factorial of given number using recursive function.

11. WAP to dynamically allocate memory of n items to an integer pointer, display their sum

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CHOICE BASED CREDIT SYSTEM

Syllabus For

B. Sc. Part – II

Computer Science (Optional)

SEMESTER – III AND IV

(Syllabus to be implemented from June, 2019 onwards.)

Sr. No	Content
1	**Linear Problem:** i) Arithmetic Operations on 2 numbers(real) ii) Percentage of Student in 5 Subjects iii) Convert Degree Celsius To Degree Fahrenheit using $F = \frac{9}{5}C + 32$ iv) Calculate Simple Interest. v) Display type of given value.(gettype())
2	**Decision Making - I:** i) Check Integer is even or odd ii) Maximum Between 3 numbers iii) Leap Year or Not iv) Grade of a student from Percentage
3	**Decision Making - II:** Check whether given variable stores an integer, float, Boolean, null, array, string, resource.
4	Iterative - I: i) Factorial of natural number ii) Number of digits, sum of digits, reverse number and palindrome or not iii) Prime number (using break) iv) Permutation of 1,2,3(using continue) v) Patterns: Triangles, Pyramids
5	Iterative - II: i) Sequences: Natural Numbers, Odd Natural Numbers, Even Natural Numbers, Square Natural Numbers, Fibonacci Sequence ii) Series: Sum of First n natural numbers, sum of first n odd natural numbers, sum of first n even natural numbers, sum of first n reciprocals of factorial numbers
6	Array - I: Create an array and display array and Smallest, Largest, Sum, Average of integer numeric array
7	**Array – II:** i) Create two arrays and merge them. ii) Create array and reverse it.

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CHOICE BASED CREDIT SYSTEM

Syllabus For

B. Sc. Part – III

Computer Science (Optional)

SEMESTER – V & VI

(Syllabus to be implemented from June, 2020 onwards)

Practical Based on DSE 21E(Lab course IV)

1. Java programs based on branching and looping statements
2. Java programs based Type Casting
3. Java programs based on command line arguments
4. Java programs based on constructors
5. Java programs based on inheritance
6. Java programs based on method overloading
7. Java programs based on method overriding

8. Java programs based on interfaces
9. Java programs based on packages
10. Java programs based on multithreading
11. Java programs based on exception handling
12. Java programs with applets

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Faculty of Interdisciplinary Studies

Structure, Scheme and Syllabus for

Bachelor of Vocation (B. Voc.)

Agriculture

Part III- Sem. V & VI

(Subject to the modifications that will be made from time to time)
Syllabus to be implemented from June 2020 onwards.

B. Voc. Part – III
Agriculture
Semester V
Paper No. XXXXII : Laboratory work: Organic Farming and Sustainable Agriculture

Total Marks –50

Work Load-4

Practical – 4 Lectures /Week/Batch

Practicals :

1. Visit of organic farms to study the various components and their utilization.
2. Preparation of compost and their methods.
3. Preparation of vermi-compost and their methods.
4. To study the biofertilizers.
5. To study the green manuring crops.
6. To study the sustainable agriculture problems and its impact on agriculture.

Scheme of practical evaluation

Internal practical evaluation	**50 marks**
1. Identify the Specimen a) ---------- b) ----------	10 marks
2. Draw the Diagram a) ---------- b) ----------	10 marks
3. Answer the Following question a) ---------- b) ----------	10 marks
4. Field Work ----------	10 marks
5. Journal and Viva-voce	10 marks

B. Voc. Part – III

Agriculture

Semester V

Paper No. XXXXIII : Laboratory work: PHM and Value Addition of Fruits and Vegetables

Work Load-4 Total Marks –50

Practical – 4 Lectures/Week/Batch

Practicals :

1. Applications and use of different types of packaging materials
2. To study the different grades of fruits and vegetables
3. Preparation of RTS, squash, nectar and cordial
4. Preparation of jam and jelly
5. Preparation of marmalade and fruit candy
6. Preparation of tomato sauce and ketchup

Scheme of practical evaluation

Internal practical evaluation **50marks**

1. Identify the Specimen 10 marks
   a) ----------
   b) ----------
2. Draw the Diagram 10 marks
   a)----------
   b)----------
3. Answer the Following question 10 marks
   a)----------
   b)----------
4. Field Work ---------- 10 marks
5. Journal and Viva-voce 10 marks

B. Voc. Part – III

Agriculture

Semester V

Paper No. XXXXIV : Laboratory work: Crop Physiology

Work Load-4 Total Marks –50

Practical – 4 Lectures/Week/Batch

Practicals :

1. Study of anatomical structure of plant body
2. Identification of physiological disorder
3. Measurement of leaf area by different methods
4. Measurement of transpiration and study of structure of stomata
5. Study of growth analysis
6. Application of growth regulators to plant

Scheme of practical evaluation

Internal practical evaluation	**50marks**
1. Identify the Specimen a)---------- b)----------	10 marks
2. Draw the Diagram a)---------- b)----------	10 marks
3. Answer the Following question a)---------- b)----------	10 marks
4. Field Work ---------- 5. Journal and Viva-voce	10 marks 10 marks

B. Voc. Part – III
Agriculture
Semester VI

Paper No. XXXXXI: Farming system and watershed management

Total Marks –50

Work Load-4
Practical – 4 Lectures/Week/Batch

Practicals:

- To study of cropping scheme
- Preparation of cropping scheme for irrigated situation
- Preparation of cropping scheme for dry land situation
- Study of existing farming system in nearby villages
- Preparation of integrated farming system model for wet land
- Preparation of integrated farming system model for irrigated land
- Preparation of integrated farming system model for dry land
- Studies on cultural practices for mitigating moisture stress.
- Field demonstration on soil and moisture conservation measures.
- Field demonstration on construction of water harvesting structures.
- Visit to rainfed research station/ water shed.

Scheme of practical evaluation

Internal practical evaluation **50marks**

1. Identify the Specimen — 10 marks
   a)----------
   b)----------
2. Draw the Diagram — 10 marks
   a)----------
   b)----------
3. Answer the Following question — 10 marks
   a)----------
   b)----------
4. Field Work ---------- 10 marks
5. Journal and Viva-voce 10 marks

B. Voc. Part – III
Agriculture
Semester VI
Paper No. XXXXVIV : Laboratory Work Spices, Condiments, Aromatic and Medicinal plants

Work Load-4
Practical – 4 Lectures/Week/Batch

Total Marks –50

Practicals :

- Identification of Spice crops and their seeds.
- Identification of Medicinal crops and their seeds.
- Identification of Aromatic crops and their seeds.
- Study of morphological characters of Spice crops.
- Study of morphological characters of Medicinal crops.
- Study of morphological characters of Aromatic crops.
- Fertilizer application methods in Spices and Condiments crops.
- Fertilizer application methods in Medicinal and aromatic crops.

Scheme of practical evaluation

Internal practical evaluation **50marks**

1. Identify the Specimen 10 marks
   a)----------
   b)----------
2. Draw the Diagram 10 marks
   a)----------
   b)----------
3. Answer the Following question 10 marks
   a)----------
   b)----------
4. Field Work ---------- 10 marks
5. Journal and Viva-voce 10 marks

B. Voc. Part – III
Agriculture
Semester VI

Paper No. XXXXXIII: Laboratory work Agriculture Engineering

Total Marks –50

Work Load-4
Practical – 4 Lectures/Week/Batch

Practicals:

- Problems and control measures of soil erosion.
- Problems and control measures of water erosion.
- Problems and control measures of wind erosion.
- Study of different types of green houses based on shape.
- Study of green house equipments.
- Study of different components of IC engine.
- Study of air cleaning and cooling system of engine.
- Study of primary and secondary tillage implements.
- Study of seed-cum-fertilizer drills, their seed metering mechanism and calibration.
- Study of different inter cultivation equipments.
- Study of different types of sprayer and duster.
- Study of harvesting and threshing machineries.

Scheme of practical evaluation

Internal practical evaluation **50marks**

1. Identify the Specimen — 10 marks
   a)----------
   b)----------
2. Draw the Diagram — 10 marks
   a)----------
   b)----------
3. Answer the Following question — 10 marks
   a)----------
   b)----------
4. Field Work ---------- — 10 marks
5. Journal and Viva-voce — 10 marks

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CHOICE BASED CREDIT SYSTEM

Syllabus For

B.Sc. Part - I
MICROBIOLOGY

SEMESTER I AND II

(Syllabus to be implemented from June, 2018 onwards.)

B. Sc. I Microbiology
Practical Course

aper –I aper-II	**Practical Course I: Introduction to Microbiology and Microbial diversity** **(CREDITS: 02; TOTAL HOURS: 30)**	**No. of Hours per Unit/Credit**
nit I/ redit I	**Introduction to Microbial Techniques**	15

1. Microbiology Good Laboratory Practices
   a) preparations of- stains (0.5% basic fuchsin, 0.5% crystal violet),
   b) Reagents (phosphate buffer of pH 7, 1 N and 1M solutions of HCL and NaOH),
   c) physiological saline.

(1) (2) Biosafety-
   a) Aseptic techniques:
      i) Table disinfection
      ii) hand wash,
      iii) use of aprons
   b) proper disposal of used material
   c) Cleaning and sterilization of glasswares

Aprons, colour pencil box, Glass Marker, Glass slide Coverslip, Matchs box, Napkin, Wire loop.

– Conical flask, test tube, Petri plate, Pippets, Glass rod, forceps, Glass Spreader.

(3) 3. Studying parts of Light compound microscope and its use and care.

4. Microscopic observation of bacteria and its parts:
   (4) a) Monochrome staining
   (5) b) Negative staining
   (6) c) Gram's staining,
   (7) d) Motility by Hanging-drop method.
   e) Cell wall staining (Chance's method)
   f) Capsule staining (Manuval's method)
   g) Volutine granule staining (Albert' s method)

(2) 5. Study of the principle and applications of instruments used in the microbiology laboratory:
   a) biological safety cabinets – Laminar
   b) autoclave, incubator
   c) hot air oven
   d) colorimeter
   e) Colony counter and bacteriological filter assembly.

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Revised Syllabus For

Bachelor of Science Part- II

MICROBIOLOGY

CBCS PATTERN

Syllabus to be implemented from

June, 2019 onwards.

PRACTICAL COURSE

Course V & VI	Practical Course III (CREDITS:02; TOTAL HOURS : 30)	No. of Hours per Unit / Credit
Unit I / Credit I	1. **Stains and staining procedures :** i) Spore staining (Dorners method) ii) Flagella staining (Bailey's method) iii) Nucleus staining (Giemsa's method) using yeast cells. 2. **Preparation of media :** Gelatin agar, Amino acid decarboxylation medium, Amino acid deamination medium, Arginine broth, Christensen's medium, Peptone nitrate broth, Hugh and Leifson's medium	15
Unit II / Credit II	1. **Biochemical tests :** i) Gelatin hydrolysis test. ii) Amino acid decarboxylation test iii). Amino acid deamination test iv). Urea hydrolysis test v) Nitrate reduction test vi) Huge and Leifson's test vii) Arginin hydrolysis 2. **Effect of environmental factor on microorganisms :** i) Temperature ii) pH iii) Heavy metals – Copper iv) Antibiotic – Penicillin v) Salt - NaCl	15
Course VII & VIII	**Practical Course IV : (CREDITS:02; TOTAL HOURS : 30)**	**No. of Hours per Unit / Credit**
Unit I / Credit I	1. Bacteriological analysis of water a. Qualitative tests – Presumptive , confirm and completed test b. Quantitative - MPN 2. Primary Screening of - i. Antibiotic producers – crowded plate technique ii. Amylase producers 3. Determination of growth phases of *E. coli* by Optical density	15
Unit II/ Credit II	1. Isolation of lac negative mutants of E.coli by visual detection method 2. Effect of U.V. light on growth of bacteria 3. Isolation and identification of pathogenic microorganisms from clinical sample. (a) *Salmonella species* (b) *Proteus species* 4. Determination of Blood groups – ABO and Rh. 5. Serological tests - Widal test – qualitative slide test	15

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NEW SYLLABUS FOR

CBCS PATTERN

SYLLBUS TO BE IMPLEMENTED

FROM JUNE 2020

SHIVAJI UNIVERSITY, KOLHAPUR

2) Structure and Titles of Papers of B.Sc. III Course :

SEMESTER VI	
Course IX (DSE E 49)	Virology
Course X (DSE E 50)	Immunology
Course XI (DSE E 51)	Food and Industrial Microbiology
Course XII (DSE E 52)	Agricultural Microbiology

SEMESTER VI	
Course XIII (DSE F 49)	Microbial Genetics
Course XIV (DSE F 50)	Microbial Biochemistry
Course XV (DSE F 51)	Environmental Microbiology
Course XVI (DSE F 52)	Medical Microbiology

9. SCHEME OF TEACHING AND EXAMINATION:

[The scheme of teaching and examination should be given as applicable to the course/paper concerned.]

Sr. No.	Subject/Paper	Teaching Scheme (Hrs/week)		
		L	P	Total
1	Course – IX and XIII	3		
2	Course – X and XIV	3		
3	Course – XI and XV	3		12
4	Course – XII and XVI	3		
5	Practical I		5	
6	Practical II		5	20
7	Practical III		5	
8	Practical IV		5	
	Total			32