

PROGRAM SPECIFIC OUTCOMES

Geography:

Program Specific Outcomes:

- Students will have a general understanding of physical geographic processes, the global distribution of landforms and ecosystems, and the role of the physical environment on human population.
- Students will have a general understanding of the various theoretical and methodological approaches in both physical and human geography and be able to develop research questions and critically analyze both qualitative and quantitative data to answer those questions.
- Students will develop a solid understanding of the concepts of “space,” “place” and “region” and their importance in explaining world affairs.
- Students will understand general demographic principles and their patterns at regional and global scales.
- Students will be able to locate on a map major physical features, cultural regions, and individual states and urban centres.

Dr. S.R. Sawate
Department of Geography

POLITICAL SCIENCE

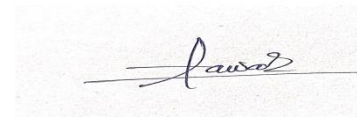
Objectives

1. Educate students about normative political values, concepts and debates centred on these along with political processes, theories, governments in India and other countries and about international relations between those countries.
2. Prepare students for a variety of careers or graduate and professional degree programs in fields such as law, bureaucracy, education, politics, policy, civil society and business.
3. Offer students the analytical and research skills needed to understand, explain, describe & evaluate society, politics, governments, organized associational life and international relations.
4. B.A. Political Science or Bachelor of Arts in Political Science is an undergraduate Political Science course. Political Science is the study of theory and practice and description and analysis

of power relations, political systems and political behaviour. The B.A. (Political Science) degree course involves study of both national and international political systems. It covers a very broad field which incorporates the study of normative concepts, historical and modern political systems, public administration, governmental policies and procedures, international relations and public affairs. The stipulated duration of the course is three years.

5. Political science, the systematic and rigorous study of politics and government, is becoming increasingly crucial in a complex and controversial world. Current cynicism about politics and public leadership belies a need for responsive, representative, effective, and capable public authority. Citizens still expect government to tackle such intimidating social problems, such as healthcare, community security, economic, and social justice and the balancing of conflicting rights and freedoms. Political science analyzes the ways societies use public authority to address collective problems. The Bachelor of Arts in Political Science program is designed to equip students with specialized research and analytical skills as well as familiarity with more generalized problem-solving skills sufficient to allow them to make valuable contributions to any vocation or enterprise they pursue and to ensure that they will be prepared to solve public problems.

6. The Bachelor of Arts degree in Political Science will engage students in the study of social, economic, and political life, nationally and globally. A bachelor's degree in political science can lead to exciting careers in federal state and local governments; law, business, and international organizations; non-profit associations and organizations; campaign management, electoral politics, and polling; journalism; and last but certainly not the least research and teaching. 27. BA (Honours) Political Science offers a strong platform to venture into div



Dr. B.T. Pawar

Department of Pol. Science

FACULTY OF COMMERCE

PROGRAMS OUTCOMES (As per Dr. BAM University Aurangabad)

Program:- B.Com (Choice Based Credit and Grading System (CBCGS) Pattern)

After completion of B.Com Program of 3 Years students will be able-

1. To understand the various concepts, terminologies relative to commerce.
2. To understand the commerce with the help of case studies and examples.
3. To acquaint different skills of commerce.
4. To develop effective communication Skills
5. To aware with use of technologies in commerce.
6. To make eligible or competent for higher studies in commerce

PROGRAMS OUTCOMES (As per Dr. BAM University Aurangabad)

Program:- M.Com (NEP)

After completion of M.Com Program of 2 Years students will be able-

1. To acquire the expertise in specific field of the commerce.
2. To obtain advance level of knowledge in the specialized subject with the help of case studies and complex examples.
3. To develop and inculcate research approach in commerce.
4. To make competent to acquire and sustain at higher position in commerce industries.

Programme Specific Outcomes (B.Com, M.Com)

Earning a graduate and Master degree of commerce (B.Com, M.Com) is evidence of persistence, determination, intellectual prowess, and the ability to handle challenging environments all of which are sought-after qualities for individuals filling manager and director positions. An employee who has demonstrated success in a long-term situation that requires stamina, discipline, leadership, and the ability to work well with others is going to be in line for growth opportunities within his or her organization. Commerce degree after completion of course can choose to work in job profile option available to them depending on their caliber and interest area such as Accountant, Auditor, Consultant, Company Secretary, Business Analyst, Finance Officer, Sales Analyst, Junior Analyst, Tax Accountant, Stock Broker, Economist, and Business Development Trainee and so on to explore.

Dr. D. A. Yewale

Department of Commerce

Department of Botany : Programme outcomes

PO1 Demonstrate and apply the fundamental knowledge of the basic principles of major fields of biology

PO2 Apply knowledge for conservation of endemic and endangered plant species

Programme specific outcomes

PO3 Apply knowledge to solve the issues related to plant sciences with the help of computer technology

Programme specific outcomes:

PSO1 collaborate effectively on team-oriented projects in the field of life sciences.

PSO2 apply Biotechnology, Ecology, Genetics and Plant breeding techniques in plant sciences

PSO3 explain Biodiversity, climate change and plant pathology.

PSO4 apply knowledge of Medicinal and Economic botany in day to day life.

PSO5 apply the knowledge to develop the sustainable and eco-friendly technology in Industrial Botany.

PSO6 communicate scientific information in a clear and concise manner both orally and in writing.



HEAD, Dept. of Botany

Program Specific Outcomes (PSOs) of B.Sc. (Zoology)

Program Specific Outcomes (PSOs) B.Sc. (Zoology)

On successful completion of the Program, the students will be able to:

- PSO1:** Learn about animal interactions with the environment and identify the major groups of organisms with an emphasis on animals and classify them within a phylogenetic framework.
- PSO2:** Apply knowledge to solve the issues related to animal sciences
- PSO3:** Learn with skills related to laboratory as well as fields based studies and inculcate interest and foundation for further studies in Zoology.
- PSO4:** Illustrate zoological science for its application in branches like medical entomology, apiculture, aquaculture and agriculture etc.
- PSO5:** Becoming an entrepreneur and also enable students to get employed in the Biological research Institutes, Industries, Educational Institutes and in the various concerning departments of State and Central Government based on subject Zoology.
- PSO6:** Ability to connect and apply biological knowledge to other disciplines and to Integrate knowledge into their personal and professional lives.
- PSO7:** Foster curiosity in the students for Zoology by inculcating good laboratory practices in students and to train them about proper handling of lab instruments.



Miss. P. B. Vidhate
Department of Zoology

History

Program Objectives:

- To acquaint students with the past and present of Maharashtra, India and the World.
- Impart a critical understanding of Indian society, economy, polity, and culture through a Historical perspective
- to prepare students for a range of careers
- to stimulate intellectual curiosity and research attitude in the students'
- to introduce the various Indian and foreign traditions of history writing

Program Outcomes:

F.Y.1. History of Marathas (AD1630-1707)

- Understand the Source of Rise of Maratha Power.
- Know about Shivaji – Mughal political relations.
- Shivaji become Chatrapati and his coronation.
- Introduce administration of Maratha Power.

2. History of Ancient India (Beginning to 320 A.D.)

- Information about archaeological tools.
- Harappan culture as well Information about Vedic culture
- To know about secondary urbanization.
- Learning the history of Mourya And Satavahana dynasty.

3. HISTORY OF THE MARATHA'S (A.D. 1707 – A.D. 1818)

- To understand the transfer of power from Chhatrapati to Peshwa
- To know the history of the accomplished man of the Peshwa family
- To understand the causes and consequences of the Third Panipat War
- Study the Decline of Maratha power.

4. History of Ancient India (A.D.320 TO A.D.1206)

- To study the history of Gupta and Vakataka dynasties.
- To study the history of Wardhan family.
- Understanding the Chalukya and Rashtrakuta dynasties.
- To study the history of Chalukyas and Vakatakas.

B.A.S.Y. 1.HISTORY OF MEDIEVAL INDIA (A.D.1526-A.D.1707)

- Medieval culture with a view understands the student.
- Student introduced nature of medieval Indian society economy, state formations and the main religious currents of the time.
- History of Mughal India, History is very important for UPSC exam.
- Students enable to understand the medieval political, Economical, Social and Agriculture History.

2. History of Colonial India (AD1757- AD1857)

- Students got knowledge of concept history of modern India.
- Modern Indian History is very useful to students for MPSC examination.
- Modern Indian History is useful to student for NET-SET exam.
- Student got knowledge of Indian philosophers and their philosophy.

3. History of Modern India (1857-1947)

- 'History of India' is very importance for UPSC exam.
- When students doing study is 'History of Modern India' that times they know about Freedom Struggle and Freedom Fighters.
- Increasing student's wideness.
- Students capable for discuss any Country issue.
- 'History of Modern India' is very importance for all competitive exams [Set-Net, MPSC]

4. HISTORY OF EUROPE

- Tracking the political situation in Europe.
- To know French Revolution and Industrial Revolution.
- Understanding the unification of Italy and Germany.
- Understanding the World War I and World War II Causes and Solutions.

BATY-IX-Historiography

- Students know source of History.
- Practically student knows to how much write history.
- Increased the knowledge of Research in History.
- Students know external and internal criticism.
- Students know Historian works.
- Students got knowledge of History writing theory.

- History writing trends in the world introduced to students.

X. History of Indian Freedom Movement (A.D.1885- A.D.1947)

- “History of Indian National Movement” topic as a part of History is a very important section as far as the syllabus of any competitive examination is possible, especially civil services exams.
- Students understand of the stages of development in modern India, why certain events happened and analysis of the consequences of such developments that power an impact on our society, Economy and our political system.
- ‘History Indian National Movement’ importance for competitive examination.
- To made them awareness of the multi-dimensionality of History of Indian National Movement

XI. History of India (1757-1885)

- ‘History of India’ is very importance for UPSC exam.
- When students doing study is ‘History of India’ that times they know about Freedom Struggle and Freedom Freighters.
- Increasing student’s wideness.
- Students capable for discuss freedom issue.
- ‘History of India’ is very importance for all competitive exams [MPSC]

XII. Project Work

- Student gets information about forts.
- Students get information about caves.
- Students understand local history.
- Students acquire knowledge about historical monuments.
- Students get information about historical coins.
- Students get information about museums, saints, social workers, Inscriptions, peasant movement, labor movement, temples, achieves, Hyderabad freedom struggle etc.

XIII. Fields of History

- Students know source of history.
- Practically student known to how much write history.
- Students know historian works.
- Students got information about culture.
- It helps students to understand the Indian Architecture.
- It helps students to understand monumental things by fieldwork.
- Students got great experiences by visiting

XIV. Landmark in the History of Modern World

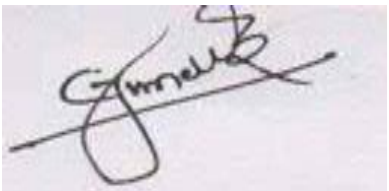
- Students got knowledge of concept in world history.
- Students got global event knowledge it is use for increased intellectual level.
- World trend of thinking, Marxist, communalism Dictatorship, Emperialism, nazizurm, Fascism, Terrorism, Feminism, Globalization etc introduced to students.

XV. Glimpses of Marthwada

- Students got knowledge of concept glimpses of the History of Marathwada.
- Students got knowledge of Religious movement in Marathwada.
- Students got knowledge of socio-economical and culture History of under the Nizam state.
- Students got knowledge of Hyderabad freedom struggle.
- ‘Glimpses of the History of Marathwada’ is very useful to student for Net,Set, MPSC and all competitive exam.
- When students doing study it ‘Glimpses of the history of Marathwada’ that times they know about original culture Religion and society.

XVI- Project Work


- Students get information about forts.
- Students get information about caves.
- Students understand local history.
- Students acquire knowledge about Historical monuments.
- Student gets information about historical coins.
- Students get information about museums, saints, social workers, present movement, labor movement, temples, Hyderabad freedom struggle etc.



Dr. V. B. Gunde
HOD, History



IQAC Coordinator
Kalikadevi Arts, Commerce and Science College
Shirur (Ka.), Beed.



Principal
Kalikadevi Arts, Comm. & Sci. College.
Shirur (Ka.), Dist. Beed.

COURSE OUTCOME

GEOGRAPHY

Course Outcome:

The current syllabus of B. A. given by the **Dr. Babasaheb Ambedkar Marathwada University, Chhatrapati Sambhajinagar** the courses offered by our college emphasis the practical utility of the course design. Many of our students have become successful Teachers, got the jobs in competitive examination MPSC, SSC, Police Constables. Geography subject is the professional subject. Those disciplines focused upon the recent trends in the Environment as well as job oriented. Thus, our course in Geography enables the students to become masters in Geography.

Dr. S. R. Sawate
Department of Geography

Political Science

Course Outcomes:

Paper No. Pol 101 Basic concepts of political science:

CO1: Students will know about the meaning of state, Government, sovereigns, Citizenship and rights.

CO2: Students will learn the ories of origin of state.CO3:Students will understand types of government and organs of government.

CO4: Students should aware about types of rights and duties of citizen

Paper No. Pol-102 Government and politics of Maharashtra

CO1: Will able to, learns on completion of course students.

CO2:To know historical and political Background of Maharashtra

State. CO3: To know state reorganization commission.

CO4:To understand and study the movements in Maharashtra.

Paper No.Pol.103 Basic consents of political science

CO1: On completion of course students will able to learn.

CO2:To know meaning definition and types of Liberty, Equality, and

justice. CO3: To know the Rights of Human.

CO4: Students will understand the democracy

system. CO5: To know welfare state.

Paper No.Pol.104 Government and Politics of Maharashtra

CO1: To know historical background of Panchyati Raj.

CO2: To study composition and functions of panchyati

system. CO3:To get information about political parties in

Maharashtra.

PaperNo.Pol.105 Indian Government and politics

CO1: To introduce Indian

constitution. CO2: To know

fundamental rights.

CO3: To study Indian government.

CO4:To understand budgetary process:

Paper No.Pol.106 International Relations

CO1 : information about international relation.

CO2:To study approaches of international

relations. CO3: To know foreign policy.

CO4:To understand the concepts of National interest and national

power. CO5: To introduce the international relations.

Paper No.Pol.107 Indian Government and politics

Col : To know about Supreme.

CO3:To study ideology and program of political parties in Commission.23 India to know importance of Election

Paper No.Pol.108 International Relations

CO1: To know about collective security to study

deterrence CO2: Introduce major issues in

internationalism:

CO3: To know International and Regional organizations:

Paper No.Pol.109 Indian Political Thinkers

CO1: To study thoughts of Raja Ram Mohan

Roy CO2: To know the thoughts of Dayanand

Sarasvati. CO3:To know the thoughts of Gopal

KrishnaGokhale

CO4: To understand the views of Lokmanya Tilak COS :To study views of Mahatma Gandhi

Paper No.Pol.110:Western Political Thinkers

CO1: On the completion of course students will

able to CO2: To study views of plate

CO3: To know thoughts of Aristotle

CO4: To understand thoughts of

Machiavelli CO5: To study views of

Thomas Hobbes.

CO6: To know thoughts of John Locke

Paper No. Pol, III Political Ideologies On the completion of course students will able to.

CO1: Introduce to

Nationalism CO2: To

understand Liberalism

CO3: To know

democracy.

CO4: To study

imperimism CO5:

To study feminism

Paper No.Pol.112 Indian Political Thinkers

CO1: To study views of Maulana Azad.

CO2: To know thoughts of Jawaharlal

Nehru. CO3: To criticize views of M.N.

Roy.

CO4: To understand the importance of Dr. Babasaheb Ambedkars

thoughts. CO5: To study thoughts of Jai Prakash Narayan.

Paper No.Pol.113 Western Political Thinkers

CO1: To study views of Jean Jacques

Rousseau CO2: To analyze views of John

Stuart Mill

CO3: To understand thoughts of Jeremy

Bentham CO4: To know importance of Karl

Marx thoughts. CO5: To study views of

Harold Laski.

Paper No.Pol.114 Political Ideologies

CO1: To introduce socialism.

CO2: To study
communism.

CO3: To understand
Fascism.

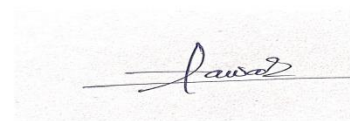
CO4: To know
anarchism

CO5: To study environmentalism.

Paper No.Pol.115 Project

CO1: On the completion of Course students will
able etc. CO2: To learn about research.

CO3: To improve scientific approach in the
students. CO4: Students will get basic knowledge
about research.



Dr. B.T. Pawar

Department of Pol. Science

Economics

Paper No. II 102 Indian Economy

CO1: To able to understanding characteristics, features structural changes in Indian Economy.

CO2: To able to understand the size of structure of population and their bad or good impact on our Indian Economy

CO3 To able to understand the increasing problems of unemployment, povery and their effect on Indian Economy.

CO4: To able to Evaluating the changing agriculture role, Industrial and service sector trade in Forager sector,

COS: To able to understand the rising social inequality problems and regional imbalances in India.

CO6: To able to understand the role of planning commission and National Development Council (NDC) Indian Economy.

CO7: To able to understand the nature, scope and impact of New Economic Reforms in 1991 on the IndianEconomy.

Paper No. III 103 Price Theory

CO1 IndentiSIng the nature of theory of production

CO2: Comprehending the Isoquant curve.

CO3: To understand cost and Revenue.

CO4: Realizing various production theories.

CO5: Clarifying the meaning of marginal, average total revenue, and marginal average and total cost and its implication.

CO6: Awareness of different markets structure.

CO7: Understanding pricing in different markets.

CO8: Judging the factor pricing.

CO9: To understanding pricing methods

CO10: To knowledge of Bain's model

Paper No. IV104 Money, Banking and Finance

CO1: To able to understand the money md banking is essential understand the monetary and barking system in India.

CO2: To able to understand the kinds ofpaper currently and methods of Note issue.

CO3: To able to understand the meaning, definition, functions and types of money.

CO4: To able to understand the functions and credit creation process of commercial banks and co-operative Banks.

CO5: To able to understand the functions of NABARD, RRB's and foreign Banks.

CO6: To able to understand the new concepts in Banking for e.g. core Banking, ATM, Credit card, Embanking etc.

CO7: To able to understand the meaning, functions, organization and management of RBI

CO8: To able to understand the concept of Money measures, meaning and objectives of Monetary policy and methods of credit control of RBI.

Paper No. V 105 Macro Economics

CO1: After getting knowledge about this subject students will be able to understand meaning, nature and scope of macroeconomics.

CO2: Students will be able to understand various concepts of national income, measurement of national income and what should be include and what should be not include in national income.

CO3: Student will be able to understand how the high growth rate achieve and maintaining has for long in developing country.

CO4: To be understand how to accelerate the growth rate

CO5: To be understand how the employment generated in the economy with the help of Keynesian employment theories.

CO6: Student will be understand the difference phases of trade cycles and the impact of cyclical fluctuation on the growth rate of economy.

Paper No. VII 107 Public Finance

CO1: After studies this subject student will be understand what public finance is all about and its importance for economy.

CO2: Student to be understand the classification of taxes between direct tax and indirect tax, also its help students to understand importance of tax in economy.

CO3: To be understand difference between private finance and public finance.

CO4: To be understand the principles and role of public expenditure in developing economy.

CO5: To be understand concept and importance of public debt as well as sources of public debt

CO6: To be understand components of union budget and types of budget.

Paper No. VII06 Development Economics

CO1: Basic knowledge of development planning economy and its growth theory.

CO2: Knowledge of development growth theory.

Paper No. VIII 10E Statistical Methods

CO1: On completion of the course student would health to demonstrate the role of and statistical techniques in the field of business/industry, illusory different types of equations solve.

CO2: Collect appropriate data concept mean, median, mode, concept of statistical averages use and apply central tendency, dispersion, skewers and kurtosis.

CO3: Explain concept of correlation, analyse and interpret covariance and correlation coefficient, illustrate ordinary least squares and uses estimate regression coefficient.

CO4: Describe the components of time series, apply time series analysis in business scenarios, illustrate the different types of Index numbers and calculate Index number.

Knowledge in understanding how the population profile oaf country is changing estimate population trend.

Paper No. IX 109 International Economics

CO1: To able to elaborating the import (acne of study of International Economics

CO2: To able to understanding the similarities and differences in Inter-regional and international trade.

O3: To able to knowing the changes in the trade and import-export policies ofIndia.

CO4: To able to evaluating various questof exchange rates in open economy and its merits or demerits.

CO5: To able to understanding the types and effects of tariffs and Non-tariffs Bari (Quotas) in Interactional Trade.

CO6: To able to judging the function, merits and demerits of IMF, IBRD (World Bank), WTO, SAARC, ADB and other International organizations.

CO7: To able to understanding the difference between Balance of Payment and Balance of Trade and Realizing the volume composition and direction of BOT and BOP.

Paper No. X 110 Agricultural Economics

CO1: After studies this subject student will be understand the importance of agriculture sector for any country.

CO2: Student will be abte to draw distinctive features of rural and urban economy or agricultural and non-agricultural which can influence the whole economy.

CO3: Student will be able to understand applicability of agricultural economics, which encompasses all aspects of crop production including horticulture, livestock rearing, fisheries etc.

CO4: Student will be able to understand agriculture as a business aims at maximum net return through the management of land labour, water and capital employing the knowledge of various sciences for production of food, feed, etc.

Paper No.)XI History of Economic Thought

CO 1: Acquaintance with the economic thought of classical, Nationalist and socialist thinkers.

CO2: Judging the development of economic thought

CO3: Comprehend the development of the theory of Economics in historical perspective.

CO4: Comprehend emerging paradigm and aberration with its reasons.

CO5: Debated similarities and differences among different economic scholars subject.

CO6: History of Economic thought is every more Important now

CO7: Keynes criticized 'classical economics' which was a comprehensive concept for him it included both new classical and classical economics.

Paper No.)XIII 113 Research Methodology

CO1: To be able to understand research methodology deals with importance of social research.

CO2: To be able to understand meaning, nature, scope and objectives of social research.

CO3: To be able to understand the theory, concepts hypothesis stages of scientific Research.

CO4: To be able to understand meaning and need of Research design and types of Research design ex. descriptive. Exploratory, diagnostic and experimental etc.

CO5: To be able to understand the methods of data collection, data presentation and data analysis.

CO6: To be able to understand arrange the content sequence of report writing.

CO7: To be able to understand the importance of hypothesis and concept of hypothesis testing methods.

CO5: Measure mortality rates, population growth reproduction rate of natural increase net

Paper No. 114 Industrial Economic

CO1: Student will be able to understand need and importance of industries sector in economic development for any country.

CO2: To be able to understand the linkage between industry and agriculture sector.

CO3: To be able to understand the organization and various ownership structure of industry, like public, private & MNCs etc.

CO4: To be understand importance of location for industry with the help of theories of location.

CO5: To be understand composition of industry sector into large scale industry, Agro processing industries etc.

Paper No. XVI15 Indian Economic Thinkers

CO1: Realizing the economic concept and theories of Neo-classical and Indian thinkers.

CO2: Evaluating the development of India economic thoughts.

CO3: To gain knowledge on the perspectives of thought Koutilya

CO4: To knowledge of the Economic ideas of Netaji, Ranade and Daft.

CO5: To understand the Dr. B.R. Ambedkar Economic ideas.

CO6: To knowledge of Economic thought of Amartya Sen.

CO7: Identifying the Economic welfare and social choice.

Choice Based Credit System (CBCS) Curriculum we. f- June 2022

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

Course outcomes-

Paper name- Micro Economics Paper no. - CC-IA

CO-1 To describe the various ideas on Economics and its related Concept.

CO-2 To evaluate and discuss the law of Demand and Supply.

CO-3 To impart knowledge on Indifference Curve.

CO-4 Identify the various concept Market Equilibrium.

CO-5 To understand Law of Supply and Supply Curve.

CO-6 Identify the various concept of Price Line.

CO-7 To knowledge of the Consumers Behaviour and Demand,

CO-8 To knowledge of revealed Preference theory.

CO-9 Identify and knowledge of kinds of Equilibrium, Static and Dynamic Equilibrium and General Equilibrium.

B.A, F.Y SEMISTER-I

Course outcomes

Paper name - Macro Economics Paper no. - CC-IB

CO-1 after getting knowledge about this subject student will be able to

Understand meaning, nature and scope of Macro Economics.

COE: To able to understand the graphs, charts, line chart diagrams and Tabular presentation.

CO9: To able to understand the importance of student package for social science (SPSS) in Research Methodology.

SEMISTER-2

Course outcomes

Paper name- Micro Economics Paper no. - CC-IC

Upon completion of Micro Economics student should be able to:

CO-1 identifying the Nature theory of production.

CO-2 Comprehending the ISO curve.

CO-3 To understand Cost and Revenue.

CO-4 realizing various Production theories.

CO-5 Classifying the meaning of Marginal average.

CO-6 Awareness of different Markets Structure.

CO-7 Understanding Pricing in different Markets.

CO-8 Judging the Factor Pricing

CO-9 To understanding Pricing Methods.

SEMISTER-2

Paper name- Macro Economics Paper no. - CC-2C

Course outcomes-

CO-1 Analyse the value of Money and its Measurement.

CO-2 Course specific outcomes of Money Banking Finance one given below.

CO-3 Understand measures to control Inflation and Deflation.

CO-4 To able to understand the kind of Paper currency and methods of Note Issue

CO-5 Analyse trade Cycles and its Effects.

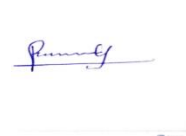
CO-6 To able to understand the meaning Definition, function and types of Money

CO-7 Understand how Monetary and Fiscal policy can be used to achieve policy Goals.

CO-8 To able to understand the functions and credit creation process of Commercial Banks and Cooperative Banks.

CO-9 Identify the social consequences of National and International Economics Activity

CO-10 To able to understand the functions of NABARD, RRBS and Foreign Banks



Dr. P. M. Mule

Department of Botany Course Outcomes

Semester	Course Title	Sr. No.	Course Outcomes(COs)	
SEMESTER – I	Diversity of Cryptogams - I	CO1	Understand the nature and role of Microorganisms like Bacteria & Viruses their uses directly and indirectly	
		CO2	Explain Structure, Organization, Physiology, Reproduction & Economic importance of aquatic, autotrophic forms – Algae	
		CO3	Explain about non chlorophyllous, heterotrophic forms – Fungi.	
		CO4	Devise short write ups about microbial diversity using additional OE resources available in the internet using modern ICT tools.	
		CO5	Discuss Microorganisms, their control and their right use.	
	Morphology of Angiosperms	CO1	Explain various external features of the plant including the root system, stems, leaves, flowers, fruits and seeds and its modifications.	
		CO2	Understand the importance of plant morphology in allied branches of botany	
		CO3	Understand the morphological differences in dicot and monocot and their classification.	
		CO4	Discuss flower of an angiosperm consists of four types of floral parts namely calyx, corolla, androecium and gynoecium and its modifications.	
	Practical based on Paper - I & I	CO1	Handle carefully microorganisms, Algae & Fungi in the practical lab.	
		CO2	Observation of specimens & slides	
		CO3	Explain about preparation of bio fertilizers	
	SEMESTER – II	Diversity of Cryptogams - II	CO1	Explain about Bryophytes in which the plant body contains Thalloid or leafy structures

		CO2	Describe the highest group of vascular cryptograms & 1st land Plants (Pteridophytes)
	Histology, Anatomy and Embryology	CO1	Explain the size and shape of the cells, the texture of the tissue, and the form of the organs.
		CO2	Describe various tissue systems in plants like epidermal, mechanical and vascular
		CO3	Students study the role of anatomy in other allied branches of botan
		CO4	Discuss on Plant cell structure.
		CO5	Understand the reproduction of plants, Haploid male and female gametes, fertilization of Zygote and embryo formation, embryo development and endosperm.
	Practical based on Paper – IV & V	CO1	Recognize Bryophytes –slides, sections and mounts.
		CO2	Identify Pteridophytes –slides, sections and mounts.
		CO3	Observe various Embryology slides.
SEMESTER – III	Taxonomy of Angiosperms	CO1	Outline the concepts of Taxonomy with Identification, Nomenclature and various classification of plants using additional OE resources available in the internet using modern ICT tools.
		CO2	Students learn Plant collection, preservation techniques and can identify plant in field
		CO3	Study on Herbarium and Botanical Gardens
	Plant Ecology	CO1	Explain various Ecosystems & relationships between Organisms and environment.
		CO2	Elaborate plant population and community Ecology
		CO3	Describe the Various Eco systems and Plant distribution.

		CO4	Identify Phyto geographical Regions of India, Plant Biodiversity and its importance using additional OE resources available in the internet using modern ICT tools.
		CO5	Discuss Phytogeography, the major plant communities of the world and different Vegetational belts of the earth with characteristic climatic Conditions of the area.
	Practical based on Paper - VII	CO1	Understand the Bentham and Hooker's and other System of Classification.
		CO2	Describe technical description of various plants
	Practical based on Paper - VIII	CO1	Understand the Ecosystem: Types, structure and functions of ecosystem (pond ecosystem). Determine minimal quadrat size and understand herbaceous vegetation in the college campus by species area curve method
		CO2	Identify the hotspots, phyto geographical regions and distribution of endemic plants in the map of India.
		CO3	Understand Plant succession-Hydrosere and Xerosere
		CO4	Discuss productivity of ecosystem-Primary, Secondary and Net productivity
SEMESTER – IV	Gymnosperms and Utilization of plants	CO1	Discuss the naked seed producing plants (naked seeded Plants of flowering plants) Gymnosperms
		CO2	Outline about a group of higher cryptogams and gymnosperms using additional OE resources available in the internet using modern ICT tools.
	Plant Physiology	CO1	Understand Plant physiology, a sub discipline of Botany concerned with functional aspects of plants
		CO2	Demonstrate processes imbibition, Osmosis, Diffusion and Plasmolysis.

		CO3	Remember all internal metabolic activities of plants.
		CO4	Understand Photosynthesis & Respiration process.
		CO5	Describe Plant growth regulators and their types.
		CO6	Explain the growth and development of plants using additional OE resources available in the internet using modern ICT tools.
	Practical based on Paper - XI	CO1	Understand Gymnosperms –slides, sections, and mounts.
		CO2	Observe and identify internal structures of plants.
	Practical based on Paper - XII	CO1	Discuss the effect of kind of light intensity, bicarbonate concentration in photosynthesis on oxygen evolution (Hydrilla funnel).
		CO2	Determine osmotic potential of vacuolar sap by plasmolytic method using leaves of Rhoeo / Tradescantia.
		CO3	Separate of chloroplast pigments using paper chromatography
		CO4	Rate of photosynthesis under varying CO ₂ concentration.
		CO5	Understand the transport phenomenon of water and Transpiration
	SEMESTER – V	Cell Biology and Molecular Biology	CO1
CO2			Discuss the structure of plant cell and Plasma membrane and cell cycle in plants
CO3			Explain the scope and importance of molecular biology
CO4			Describe the structure of DNA, Packing of DNA and types of DNA, RNA.

		CO5	Explain the DNA replication process, enzymes involved in that process.
		CO6	Understand the basic components of cell, key role of cell division during cell cycle
	Diversity of Angiosperms - I	CO1	Create awareness about the plants& their Biodiversity.
		CO2	Explain about the rare, endangered, endemic species and their biodiversity.
		CO3	Discus about the family's with local examples.
	Practical based on Paper - XV	CO1	Understand the plant cell structure through microphotographs.
		CO2	Understand the structure of cell organelles through photomicrographs.
	Practical based on Paper – XVI(A)	CO1	Understand plant diversity (flowering plants) and Maceration, wood (Tracheary elements, fibres).
		CO2	Explain exotic species- Identification and morphological characteristics.
		CO3	Knowledgeable through visits to the local ecosystem for Herbarium collection.
SEMESTER – VI	Genetics and Biotechnology	CO1	Explain about inheritance and behaviour of chromosomes using additional OE resources available in the internet using modern ICT tools.
		CO2	Describe Plant Breeding and produce new crop varieties superior to existing types in all.
	Diversity of Angiosperms - II	CO1	Discus about the family's with local examples.
		CO2	Realize ecological importance of plants and describe the role of plants in relation to Human Welfare.
	Practical based on Paper - XIX	CO1	Describe the various stages of mitosis using cytological preparation of
		CO2	Onion root tips. Understand DNA packing by micrographs

		CO3	Solving numerical problems using Mendel's Laws of inheritance
		CO4	Explain Hybridization techniques – emasculation, bagging (for demonstration only).
	Practical based on Paper – XX(A)	CO1	Explain exotic species- Identification and morphological characteristics.
		CO2	Realize ecological importance of plants and describe the role of plants in relation to Human Welfare.
		CO3	Knowledgeable through visits to the local ecosystem for Herbarium collection.



HEAD, Dept. of Botany

B. Sc. (Zoology) First Year B.Sc.

Semester-I

Course ZOL- 101 Animal Diversity- I (Protozoa to Echinodermata)

After successfully completing this course, students will be able to:

CO1: To understand the general organization, diversity and adaptation of NonChordates and Protochordata

CO2: The Student will learn the importance of biodiversity conservation.

Course: ZOL-102-Cell Biology

After successfully completing this course, students will be able to:

CO1: The students will the Structure and function of animal cell

CO2: The students will understand compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development.

Course: ZOL-103 Practical Based on ZOL-101 and ZOL-102:

After successfully completing this course, students will be able to:

CO1: The students will recognize the live forms of invertebrates.

CO2: The students will Study of the cells in respect to internal structure.

Semester-II

ZOL-105 -Animal Diversity- II (Protochordata to Mammals)

After successfully completing this course, students will be able to:

CO1: The students will understand the general organization of Chordata

CO2: The students will understand the taxonomy and characteristic feature of Chordate phyla.

Course: ZOL-106-Genetics

After successfully completing this course, students will be able to:

CO1: The students will understand the basic terms in genetics and heredity

CO2: The students will understand the classical and modern concept of gene, muton, recon and mendal law of inheritance.

Course: ZOL- 107 Practical based on ZOL-105and ZOL-106:

After successfully completing this course, students will be able to:

CO1: Identify and study various animals based on morphological features from the Phylum Protochordata to Mammal

CO2: Detect human blood group.

CO3: Gain the knowledge about normal human karotype

CO4: The student will learn about down syndrome, Turner syndrome and Klinefelters Syndrome

CO5: Study the gene frequency and mutants of man

Course Outcomes (COs)

B. Sc. (Zoology) Second Year B.Sc.

Semester-III

Course ZOL- 311: Developmental Biology

After successfully completing this course, students will be able to:

CO1: The students will understand the basic concept in development biology.

CO2: Explain model organism for developmental studies.

CO3: Explain the concept of gametogenesis, fertilization and cleavage

CO4: Understand the concept of chick and mammal embryology.

Course ZOL-312: Ecology

After successfully completing this course, students will be able to:

CO1: Demonstrate knowledge of biotic and abiotic interaction

CO2: Express understanding of environmental issues, and inter-relation between different components of an ecosystem

CO3: Ability to elaborate about distribution and abundance of organism.

CO4: Apply different experimental techniques to study any ecosystem or its components.

CO5: Describe the relation between structures and function species environment.

Course ZOL- 321: Practical paper based on ZOL-311 on Development Biology:

After successfully completing this course, students will be able to:

CO1: Understand the whole mount of different types of sperm..

CO2: Understand the egg and cleavage pattern

CO3: Understand the different stages of frog development

CO4: Understand the the type of placenta.

CO5: Understand the whole mount of Chick embryo

CO6: Slide preparation of Chick embryo

Course ZOL- 322- Practical paper based on ZOL-312 on Ecology

After successfully completing this course, students will be able to:

CO1: Understand the dissolved oxygen, alkalinity, salinity and chlorinity of watersample

CO2: Learn the population density by quadrature method.

CO3: Study of microscope fauna of freshwater ecosystem (from Ponds)

CO4: Preparation of permanent slide of, Spirogyra, Verticella, Oedogonium, Daphina, Cyclop and Mysis

Skill Enhancement Course

ZOL-313 SEC-1 (A): Haematology

After successfully completing this course, students will be able to:

CO1: Ability to Explain Composition and Function of blood.

CO2: Knowledge about compound used in processing and storage of blood.

ZOL-313 SEC-1 (B): Urinology

After successfully completing this course, students will be able to:

CO1: Ability to describe function of human urinary system.

CO2: Skill to collect, preserves, process and store urine sample.

Semester-IV

Course ZOL- 411: Biochemistry and Endocrinology

After successfully completing this course, students will be able to:

CO1: The student will understand the fundamental process of biochemical process and their application.

CO2: The students will understand the Structure and function of endocrine system.

Course ZOL- 412: Evolution

After successfully completing this course, students will be able to:

CO1: Understand the theory and concept of evolution.

CO2: Learn the process of evolution.

CO3: Understand the patterns of evolutionary changes in animals.

CO4: Understand the organization and function of genetic material in the living world.

CO5: Understand to the recombinant technology.

Course ZOL- 421: Practical paper based on ZOL-411 on Biochemistry and endocrinology:

After successfully completing this course, students will be able to:

CO1: Prepare the solution of given percentage, normality and morality.

CO2: Learn the analytical instrument principle and application.

CO3: Study the qualitative test for organic compound,

CO4: Gain the knowledge about histological slides and endocrine gland

Course ZOL- 422: Practical paper based on ZOL-412 on Evolution After successfully completing this course, students will be able to:

CO1: Study the evidences by using photograph/ charts and models.

CO2: Understand the Adaptation (Museum Specimen)

CO3: Understand the Patterns of speciation with the help of charts/ models /pictures.

CO4: Understand the successive stages of evolution of horse and man with help of charts/ models.

Skill Enhancement Course

ZOL-413 SEC-2 (C): Micro technique

After successfully completing this course, students will be able to:

CO1: To identify different types of tissue and distinguish between different components of cells. Handle and catalogue slides of different tissue

CO2: To acquire the skill related to different process in micro technique

ZOL-413 SEC-2 (D): Apiculture

After successfully completing this course, students will be able to:

CO1: Ability to correctly explain and perform bee rearing, framing and harvesting practices.

CO2: Appreciate the economic importance of derivative benefits.

Course Outcomes (COs)

B. Sc. (Zoology) Third Year B.Sc.

Semester-V

Course ZOL- 501: Ecology

After successfully completing this course, students will be able to:

CO1: The Student will develop an appreciation of the modern scope of scientific inquiry in the field of Ecology.

CO2: Become familiar with the variety of ways that organisms interact with both the physical and the biological environment.

CO3: The Student will develop an understanding of the differences in the structure and function of different types of ecosystems.

Course ZOL- 502: Fishery Sciences-I

After successfully completing this course, students will be able to:

CO1: The Student will obtain knowledge of fishery science, with a particular emphasis on the biology, assessment, and management of fish and invertebrate fisheries.

CO2: Gain the knowledge about remote sensing technique in pelagic fisheries

Course ZOL- 503: Practical paper based on ZOL-501 on Ecology

After successfully completing this course, students will be able to:

CO1: Understand the productivity of pond ecosystem using white and dark bottle methods.

CO2: Determine the soil parameters.

CO3: Understand the dissolved oxygen, carbon dioxide, salinity and chlorinity of water sample

CO4: Understand the animal association ship with example

CO5: Estimate the population density.

CO6: Preparation of permanent slide of, Spirogyra, Verticella, Oedogonium, Daphina, Cyclop, Mysis, Cypris and keretella.

Course ZOL- 504: Practical paper based on ZOL-502 on Fishery Sciences-I

After successfully completing this course, students will be able to:

CO1: Understand the freshwater fishes

CO2: Gain the knowledge about brackish water fishes.

CO3: Gain the knowledge about marine water fishes.

Semester-VI

Course ZOL- 601: Evolution

After successfully completing this course, students will be able to: **CO1:**

The Student will gain the knowledge about evolution **CO2:**

Understand the theory evolution.

CO3: Learn the process of evolution.

CO4: Understand the patterns of evolutionary changes in animals.

CO5: Learn about Fossils

Course ZOL- 602: Fishery Sciences-II

After successfully completing this course, students will be able to: **CO1:**

The Student will gain the knowledge about fish culture **CO2:** learn about fish diseases.

CO3: Students will be made fully skilled with respect to aquaculture, fisheries management, formulating policies and making crucial developments in fisheries sector/fishing community

Course ZOL- 603: Practical paper based on ZOL-601 on Evolution

After successfully completing this course, students will be able to:

CO1: Learn the embryological evidences of evolution

CO2: Understand the adaptive modification in feet of bird and mouth part of insects.

CO3: Understand the successive stages of evolution of horse and man with help of charts/ models.

CO4: Gain the Knowledge about homologous and analogous organs

CO5: Understand the natural selection using E.Coli bacteria against antibiotics.

Course ZOL- 604: Practical paper based on ZOL-602 on Fishery Sciences- II

After successfully completing this course, students will be able to:

CO1: Learn the Primary productivity of ponds

CO2: Identification, classification and culturalable significance of catla, rohu, mrigal, catfishes and exotic canoj

CO3: Learn the collection and identification of fish parasite and worms.

CO4: Understand the identification of craft and gears. .



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DEPARTMENT OF MATHEMATICS

OUTCMES OF SYLLABUS

B.SC. First Year syllabus (NEW)

[Choice Based Credit & Grading System]-[REF.NO.SU/2022/6852-62 Date:10./08/2022]

Course Outcomes (COs)

B.SC. (Mathematics) First Year B.SC.

Semester –I

MAT-101: Geometry

Paper -I

Course Objectives: -General objectives are to study three-dimensional geometry, plane,

Right line, sphere, cone and cylinder along with their properties &Interceptions.

Course Outcomes:-After successful completion of this course the student will able to identify and study equation of plane. Basic idea of lines, sphere, cones and cylinders.

Semester –I

MAT-102: Differential Calculus

Paper –II

Course Objectives: - The objective of the course is to learn real sequences, functions and higher Derivatives, vector differentiation and applications.

Course Outcomes: - After completion of the course students will be able to:

- Classify the sequences.
- Check the limit and continuity of functions.
- Evaluate the derivative of functions.
- Find the curl divergence and gradient of functions.

Semester –II

MAT-201: Number Theory

Paper –III

Course Objective: - A primary objective of the course is to learn elementary knowledge of Number theory.

Course Outcomes: - At the end of course, students will be able to:

- Evaluate the greatest common divisor and solve Diophantine equations.
- Understanding of divisibility concepts, prime numbers and usefulness of congruencies.

- Use the results to solve problems.

Semester –II

MAT-202: Integral Calculus

Paper –IV

Course Objectives: -The main objective of the course is to study methods of finding integration And apply it to evaluate line integral volume integral and surface integral.

Course Outcomes: - After successful completion of the course student will be able to:

- Apply method of integration to find the integral of function.
- Find the area, surface and volume of given shape.

Course Outcomes (COs)

B.SC. (Mathematics) Second Year B.SC.

Semester –III

MAT-301: Number Theory

Paper –V

Course Objectives: - After studying this course, you should be able to:

1. Find quotients and remainders from integer division.
2. Apply Euclid's algorithm and backwards substitution.
3. Understand the definitions of congruence's, residue classes and least residues.

Course Outcomes: - Upon completing the course, students will be able to:

1. Solve problems in elementary number theory.
2. Apply elementary number theory to cryptography.
3. Develop a deeper conceptual understanding of the theoretical basis of number theory and Identify how number theory is related to and used in cryptography.

Semester –III

MAT-302: Integral Transforms

Paper -VI

Course Objectives:-

1. The Course will enable students in handling linear systems using matrices.

2. Understand different solution techniques and use tools like Fourier transforms

Fourier series, Z – transforms,

3. Beta and Gamma functions in problem solving.

Course Outcomes:-

1. Solve finite difference equations using Z-transforms.

2. Solve improper integrals using beta, gamma functions.

3. Apply method of least squares to find the curve of best fit for the given data.

4. Solve partial differential equations of first order

MAT-303: MECHANICS

Paper –VII

Semester –IV

Course Objectives:-

1. Students will be able to understand basic concepts of stress, strain and their relations based on linear elasticity.

2. Material behaviours due to different types of loading will be discussed.

3. Students will be able to understand and know how to calculate stresses and deformation of A bar due to an axial loading under uniform and non-uniform conditions.

4. Students will understand how to develop shear-moment diagrams of a beam and find the Maximum moment/shear and their locations

5. Students will understand how to calculate normal and shear stress

Course Outcomes:-

1. Analyse the behaviour of the solid bodies subjected to various types of loading.

2. Apply knowledge of materials and structural elements to the analysis of simple structures.

3. Undertake problem identification, formulation and solution using a range of analytical Methods.

4. Analyse and interpret laboratory data relating to behaviour of structures and the materials

They are made of, and undertake associated laboratory work individually and in teams.

5. Expectation and capacity to undertake lifelong learning.

Semester –IV

MAT-401:-Numerical Methods

Paper –VIII

Course Objectives:-

1. Find the solution of the first order and second order equation with constant coefficient
2. Find the summation of series finite difference techniques
3. Find the solution of ordinary differential equation of first order by Euler, Taylor and Runge-Kutta methods
4. Derive Least – Squares curve fitting procedures, fitting a straight line, nonlinear curve fitting, Curve fitting by a sum of exponentials.

Course Outcomes:-

1. Apply appropriate numerical methods to solve the problem with most accuracy.
2. Be able to find the solution of linear systems by using direct methods, Matrix inversion Method, Gaussian elimination methods, Gauss-Jordan Method, Method of factorization, Solution of Tridiagonal Systems.
3. Be able to find the find the solution of ordinary differential equation of first order by Euler Taylor and Runge-Kutta methods

MAT-402:-Partial Differential Equations

Paper -IX

Course Objectives:-

1. Introduce students to partial differential equations.
2. Introduce students to how to solve linear Partial Differential with different methods.
3. Find the solutions of PDEs are determined by conditions at the boundary of the spatial domain and initial conditions at time zero.

4. Technique of separation of variables to solve PDEs and analyse the behaviour of solutions in terms of Eigen function expansions.

Course Outcomes:-

1. Solve linear partial differential equations of both first and second order
2. Extract information from partial derivative models in order to interpret reality.
3. Identify real phenomena as models of partial derivative equations.

MAT-403: MECHANICS

Paper X

Course Objectives:-

To appreciate the theory of relativity for particles having relativistic speed.

To realize the reduction of a two-body problem to a one-body problem in a central force system.

Course Outcomes:-

1. Identify the motion of a mechanical system using Lagrange-Hamilton formalism
2. Apply theory of relativity to determine time dilation, length contraction and simultaneity
3. Determine the various four vectors: position, velocity, acceleration, momentum, Force

Course Outcomes (COs)

B.SC. (Mathematics) Third Year B.SC.

Semester –V

MAT-501: Real Analysis

Paper –XI

Course Objectives:-

1. Have the knowledge of basic properties of the field of real numbers.
2. Studying the basic topological properties of the real numbers
3. Studying the notion of continuous functions and their properties.

Course Outcomes:-

1. Abstraction ability and are able to recognize analogies and basic patterns
2. A classify, recognize, formulate and solve mathematics-related problems

3. The is electronic media competently

MAT-502: Abstract Algebra

Paper –XIII

Course Objectives:-

1. In particular to study in details the Sylow theorems and polynomials rings.
2. This course helps to gain skill in problem solving and critical thinking.

Course Outcomes:-

1. The student will be able to define and work with the concepts of homomorphism and Isomorphism.
2. The student will be able to apply the basic concepts of field theory, including field extensions And finite fields.
3. The student will be able to define the concepts of coset and normal subgroup and to prove Elementary propositions involving these concepts.

MAT-504: Ordinary Differential Equations

Paper –XIII

Course Objectives:-

1. To model mechanical systems using differential equations.
2. To analyse and solve ordinary differential equations.
3. To understand numerical methods for solving ordinary differential equations.

Course Outcomes:-

1. Understand the basic concepts of differential equations
2. Solve the ordinary differential equations using variation of parameters, undetermined Coefficients and by numerical technique.

Semester –VI

MAT-601: Real Analysis

Paper –XIV

Course Objectives:-

1. Have the knowledge of real functions-limits of functions and their properties.
2. Studying the differentiability of real functions and related theorems.
3. General and Transferable Skills: Develop the ability to reflect on problems that are quite Significant in the field of real analysis

Course Outcomes:-

1. Knowledge of the implementation of theories in problem solving.
2. Ability to identify, formulate, and solve problems.
3. Knowledge of basic theorems and concepts in the different areas of mathematics.

MAT-602: Abstract Algebra

Paper –XV

Course Objectives:-

1. Develop the ability to form and evaluate conjectures.
2. Present concepts and properties of various algebraic structures.
3. Discuss the importance of algebraic properties relative to working within various number Systems.

Course Outcomes:-

1. Generate groups given specific conditions.
2. Investigate symmetry using group theory.
3. Identify plane periodic patterns (lattices).

MAT-604: Ordinary Differential Equations

Paper –XVI

Course Objectives:-

1. To analyse and solve ordinary differential equations.
2. Will be able to explain the concept of differential equation
3. Explains the meaning of solution of a differential equation
4. Will be able to solve first-order ordinary differential equations.

Course Outcomes:-

1. Solve problems involving exponential growth and decay.

2. Understand the basic concepts of differential equations
3. Undetermined coefficients and by numerical technique.



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