Ramnarain Ruia Autonomous College, Syllabus for Bioanalytical Sciences (UG) 2024-2025

Resolution No: AC/II(23-24).2.RUS1

# S. P. Mandali's

# Ramnarain Ruia Autonomous College

(Affiliated to University of Mumbai)



Syllabus For:

# **Program: Integrated M.Sc. in Bioanalytical**

Sciences

# (F.Y.B.Sc. Syllabus)

# Program Code: RUSBAS

(As Per Guidelines of National Education Policy 2020 – Academic Year 2024-25)

(Choice Based Credit System)

Ramnarain Ruia Autonomous College, Syllabus for Bioanalytical Sciences (UG) 2024-2025

## **GRADUATE ATTRIBUTES**

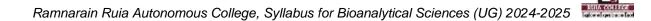
GA	GA Description	
	A student completing Bachelor's Degree in Science program	
	will be able to:	
GA 1	Recall and explain acquired scientific knowledge in	
	comprehensive manner and apply the skills acquired in their	
	chosen discipline. Interpret scientific ideas and relate its	
	interconnectedness to various fields in science.	
GA 2	Evaluate scientific ideas critically, analyse problems, explore	
	options for practical demonstrations, illustrate work plans and	
	execute them, organise data and draw inferences.	
GA 3	Explore and evaluate digital information and use it for knowledge	
UN 5	upgradation. Apply relevant information so gathered for analysis	
	and communication using appropriate digital tools.	
	and communication using appropriate digital tools.	
GA 4	Ask relevant questions, understand scientific relevance,	
	hypothesize a scientific problem, construct and execute a project	
	plan and analyse results.	
GA 5	Take complex challenges, work responsibly and independently, as	
	well as in cohesion with a team for completion of a task.	
	Communicate effectively, convincingly and in an articulate	
C C	manner.	
GA 6	Apply scientific information with sensitivity to values of different	
	cultural groups. Disseminate scientific knowledge effectively for	
0.0,	upliftment of the society.	
GA 7	Follow ethical practices at work place and be unbiased and critical	
	in interpretation of scientific data. Understand the environmental	
	issues and explore sustainable solutions for it.	
GA 8	Keep abreast with current scientific developments in the specific	
	discipline and adapt to technological advancements for better	
	application of scientific knowledge as a lifelong learner.	



РО	Description	
	A student completing Bachelor's Degree in Science program in the subject of Bioanalytical Sciences will be able to:	
PO 1	This course will impart high quality science education in a vibrant academic ambience with the faculty of distinguished teachers and scientists.	
PO 2	It will also equip students for the future who will take up the challenge of doing quality research & teaching and also contribute to industrial production and R & D in the fields of Bioanalysis, Bioinformatics and Nutraceutical Sciences.	
PO 3	It will amalgamate classical analytical chemical techniques with modern genomic and proteomic technologies of manufacturing and analysis to better characterize the products useful as medicines as well as nutraceuticals.	

#### **PROGRAM OUTCOMES**

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## General Electives- RUSGEBAS.0101

# **Course Title: Understanding India**

## Academic Year 2024-25

#### F.Y.B.Sc.

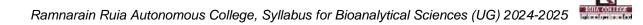
## **COURSE OUTCOMES:**

COURSE OUTCOME	DESCRIPTION
CO 1	Describe the characteristics of urban and rural population.
CO 2	The philosophy and basic features of the Indian Constitution
CO 3	Apply the core values of the Indian constitution in every sphere of life and thereby being a responsible citizen.
CO 4	Elaborate on the fundamental rights and duties of the citizen.
CO 5	Learn the qualities which will give them sense of understanding concept of equality"

Paper	Code	Semester I	Credits/Hours
RUSG	EBAS.0101	Understanding India	2/30
106.1	Overview of Indian S	ociety	15
А.	Understanding Multi-Cult	ural diversity of Indian society	
	through its demographic co	omposition: population distribution	
	according to Religion, Caste and Gender		
B.	Regional variations in In	ndia – Rural, Urban and Tribal	
	characteristics		
C.	Harmony and Tolerance as	a basis of National Integration	
106.2	Constitution of India		15
А.	Salient Features of Constitu	ution of India	
B.	Structure and Philosophy of	of the Constitution as set out in the	
	Preamble		
C.	Fundamental Rights and Fu	undamental Duties	

# **Reference Books:**

Understanding India	1. Austin, Granville, <i>The Indian Constitution: Cornerstone of a Nation</i> , OUP, New Delhi, 1999.
	<ol> <li>Ahuja, Ram, Social Problems in India, Rawat Publications, Paperback, 3<sup>rd</sup> Ed., 2014.</li> </ol>
	<ol> <li>Bakshi, P.M., <i>The Constitution of India</i>, Universal Law Publications, Paperback, 13<sup>th</sup> Ed., 2014.</li> </ol>
	<ol> <li>Basu, D. D., An Introduction to the Constitution of India, Lexix Nevis, 22<sup>nd</sup> Edition, 2015.</li> </ol>
	5. Chatterjee, Partha (ed.), <i>State and Politics in India</i> , Oxford University Press, New Delhi, 1997.
	6. Gokhale Shrikant, <i>Indian Polity</i> (Trans), K'Sagar Prakashan, Pune.
	<b>7</b> . Kaushal, Rachana, <i>Women and Human Rights in India</i> , Kaveri Books, New Delhi, 2000.
	8. Lakshmikant M., <i>Indian Polity</i> , McGraw Hill Publications, Paperback, 5 <sup>th</sup> Ed., 2016.
2	9. Motilal, Shashi, and Nanda, Bijoy Lakshmi, <i>Human Rights:</i> <i>Gender and Environment,</i> Allied Publishers, New Delhi, 2007.
o Sulli.	10. Shivananda, J, <i>Human Rights,</i> Alfa Publications, New Delhi, 2006.
	11. Hasnain, Nadeem, Hasnain, Aseem, Indian Society: Themes and Social Issues, McGraw Hill, 2021
	12. Hasnain, Nadeem, Tribal India, 7 <sup>th</sup> Edition, Palaka Prakashan, Delhi, 2021



# General Electives - RUSGEBAS.E111

# **Course Title: Business Economics**

# Academic Year 2024-25

#### F.Y.B.Sc.

20.

#### **COURSE OUTCOMES:**

COURSE OUTCOME	DESCRIPTION	
CO 1	Explain the basics of economics, Micro and Macro economics	
CO 2	Learn the Business environment and business cycle.	

Paper Code	Semester II	Credits/Hours
RUSGEBAS.E111	<b>Business Economics</b>	2/30
1 Introd	uction to Economics	10
Economics as a social science. Scope of Business Economics. Concept of Utility, wealth, Capital. Income, savings. Factors of Production.		
2 Micro	Economics and Macro Economics	10
Concept of Micro a Concept of Demand Law of Demand an Forms of Market		
3 Econo	mics and Business environment	10
Study of Business (	ne success of any business. Cycles. scenario in India (Post reform era)	

# **Reference Books:**

Business	Indian Economy (Datt & Sundaram) – S. Chand and Company Ltd.
Economics	Economics – Paul Samuelson.
	Advance economic theory – H.L. Ahuja



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