

Resolution No: AC/II (22-23).3.RUS1

S. P. Mandali's
Ramnarain Ruia Autonomous College
(Affiliated to University of Mumbai)



Integrated M.Sc. in Bioanalytical Sciences
(F.Y.B.Sc. Syllabus)

Program Code: RUSBAS

As Per Guidelines of National Education Policy 2020 – Academic Year 2023-24

(Choice Based Credit System)

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 a 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 upgradation. Apply relevant information so gathered for analysis 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 manner.
GA 6	Apply scientific information with sensitivity to values of different cultural groups. Disseminate scientific knowledge effectively for 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.

PROGRAM OUTCOMES

PO	Description
PO 1	A student completing Bachelor's Degree in Science program in the subject of Bioanalytical Sciences will be able to: 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.

General Electives- RUSGEBAS.0101

Course Title: Understanding India

Academic Year 2023-24

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
RUSGEBAS.0101	Understanding India	1/30
106.1	Overview of Indian Society	15
A. Understanding Multi-Cultural diversity of Indian society through its demographic composition: population distribution according to Religion, Caste and Gender B. Regional variations in India – Rural, Urban and Tribal characteristics C. Harmony and Tolerance as a basis of National Integration		
106.2	Constitution of India	15
A. Salient Features of Constitution of India B. Structure and Philosophy of the Constitution as set out in the Preamble C. Fundamental Rights and Fundamental Duties		

Reference Books:

<p>Understanding India</p>	<ol style="list-style-type: none"> 1. Austin, Granville, <i>The Indian Constitution: Cornerstone of a Nation</i>, OUP, New Delhi, 1999. 2. Ahuja, Ram, <i>Social Problems in India</i>, Rawat Publications, Paperback, 3rd Ed., 2014. 3. Bakshi, P.M., <i>The Constitution of India</i>, Universal Law Publications, Paperback, 13th Ed., 2014. 4. Basu, D. D., <i>An Introduction to the Constitution of India</i>, Lexix Nevis, 22nd Edition, 2015. 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. 7. 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, 5th Ed., 2016. 9. Motilal, Shashi, and Nanda, Bijoy Lakshmi, <i>Human Rights: Gender and Environment</i>, Allied Publishers, New Delhi, 2007. 10. Shivananda, J, <i>Human Rights</i>, Alfa Publications, New Delhi, 2006. 11. Hasnain, Nadeem, Hasnain, Aseem, <i>Indian Society: Themes and Social Issues</i>, McGraw Hill, 2021 12. Hasnain, Nadeem, <i>Tribal India</i>, 7th Edition, Palaka Prakashan, Delhi, 2021
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General Electives - RUSGEBAS.E111

Course Title: Business Economics

Academic Year 2023-24

F.Y.B.Sc.

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	Business Economics	1/30
1	Introduction 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 and Macro Economics. Concept of Demand and Supply. Law of Demand and Supply. Forms of Market		
3	Economics and Business environment	10
Factors affecting the success of any business. Study of Business Cycles. Changing business scenario in India (Post reform era)		

Reference Books:

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