

**F.Y.B.Sc Foundation Course Syllabus Semester I**



**Hindi Vidya Prachar Samiti's Ramniranjan  
Jhunjhunwala College of Arts, Science  
& Commerce  
(Autonomous College)**

**Affiliated to  
UNIVERSITY OF MUMBAI**

**Syllabus for the F.Y.B.Sc**

**(CBCS)**

**2018-2019  
2019-2020  
2020-2021  
2021-2022  
2022-2023**

**Refer to page no: 12  
highlighting component  
of Research Project**

**Program: B.SC (Mandatory Foundation Course)**

**Program Code: RJSUFC**

**F.Y.B.Sc Foundation Course Syllabus Semester I**

**DISTRIBUTION OF TOPICS AND CREDITS**

**F.Y.B.SC FOUNDATION COURSE SEMESTER I**

<b>Course</b>	<b>Nomenclature</b>	<b>Credits</b>	<b>Topics</b>
RJSUFC101	Foundation Course I	02	Unit I: Overview of Indian Society: Unit II: Concept of Disparity Unit III: The Indian Constitution Unit IV: Significant Aspects of Political Processes

**F.Y.B.SC FOUNDATION COURSE SEMESTER II**

<b>Course</b>	<b>Nomenclature</b>	<b>Credits</b>	<b>Topics</b>
RJSUFC201	Foundation Course I	02	Unit I: Globalization and Indian Society Unit II: Basic Human Values and Human Rights Unit III: Ecology Unit IV: Understanding and Managing Stress and Conflict Unit V: General knowledge

### F.Y.B.Sc Foundation Course Syllabus Semester I

F.Y.B.SC	Semester: I & II
<b>RJSUFC</b> Paper I Foundation Course	<b>Course Outcome:</b>  1. General Problem-Solving Skills  2. Communication Skills  3. Stress and Conflict Management  4. Writing Skills  5. Understanding Other Disciplines  6. Time Management  Groom student to live dignified life.  <b>Learning Outcomes:</b>  i. Students will understand the Indian society and the disparity that prevails.  ii. Students will be sensitized and have a basic understanding of issues on human rights, the constitution and political processes.  iii. Students will be inculcated with knowledge about stress and conflict, and learn to deal with them.

**F.Y.B.Sc Foundation Course Syllabus Semester I**

<b>SEMESTER I</b>		<b>L</b>	<b>Cr</b>
<b>Paper-I:</b>	<b>Paper Code: RJSUFC101</b>	45	2
<b><i>UNIT I</i></b>		10	
<b>Overview of Indian Society</b>			
1	Understand the multi-cultural diversity of Indian society through its demographic composition		
2	Population distribution according to religion, caste, and gender		
3	Understand regional variations according to rural, urban and tribal characteristics		
<b><i>UNIT II</i></b>		13	
<b>Concept of Disparity</b>			
1	Understanding the concept of disparity as arising out of inequality based on caste and class. Explore the disparities arising out of gender with special reference to violence against women, female foeticide (declining sex ratio), and portrayal of women in media;		
2	Understand inter-group conflicts, its causes and effects arising out of communalism, casteism, regionalism and linguistic differences.		
<b><i>UNIT III</i></b>		12	
<b>The Indian Constitution</b>			
1	Philosophy of the Constitution as set out in the		
2	Preamble; Basic features of the Constitution		

**F.Y.B.Sc Foundation Course Syllabus Semester I**

3	Fundamental Duties of the Indian Citizen; tolerance, peace and communal harmony as crucial values in strengthening the social fabric of Indian society		
<i>UNIT IV</i>		10	
<b>Significant Aspects of Political Processes</b>			
1	The party system in Indian politics; Local government in urban and rural areas		
2	Role and significance of women in politics		
3	Participation of youth in politics		

**F.Y.B.Sc Foundation Course Syllabus Semester I**

<b>SEMESTER II</b>		<b>L</b>	<b>Cr</b>
<b>Paper-I</b>	<b>Paper Code: RJSUFC201</b>	45	2
<b><i>UNIT I</i></b>		11	
<b>Globalization and Indian Society</b>			
1	Understanding the concepts of liberalization, privatization and globalization – its causes and impact		
2	Impact of globalization on industry		
3	Impact of globalization on Agriculture		
<b><i>UNIT II</i></b>		13	
<b>Basic Human Values and Human Rights</b>			
1	Basic Human Values: Distinction between Facts, Values and Norms; some of the basic human values		
2	Concept of Human Rights; origin and evolution of the concept; The Universal Declaration of Human Rights		
3.	Human Rights constituents with special reference to Fundamental Rights stated in the Constitution		
<b><i>UNIT III</i></b>		11	
<b>Ecology</b>			
1	Concept and Scope of Ecology		

**F.Y.B.Sc Foundation Course Syllabus Semester I**

2	Threats to the environment arising from extinction, loss of habitat, degradation of environment. Pollution and climate change		
3	Sustainable development- concept and components; poverty and environment		
4.	Environment and daily life (Eco Tips)		
<b><i>UNIT IV</i></b>		10	
<b>Understanding and Managing Stress and Conflict</b>			
1	Stress and Stress Management		
2	Conflicts and Coping Mechanisms; Conflicts at individual and societal levels		
3	Significance of values and ethics towards building peace and harmony		

**F.Y.B.Sc Foundation Course Syllabus Semester I**

**References:**

1. Dharmapal, Atharvya Shatakatil Bhartiya Vidnyan ani Tantradnyan, Bhartiya Shikshan Mandal, Nagpur, 2013.
2. Kulkarni, Dileep, Badluya Jeevanshaili, Bhag 1 ani 2, Rajhans Prakashan, Pune.
3. Kulkarni, Dileep, Nisargayan, Rajhans Prakashan, Pune, 2005.
4. M. Laxmikanth, Indian Polity, Tata McGraw Hill, New Delhi, 2013.
5. Parnell, Anthony, The 7 Laws of Stress Management, Indra Publishing House, New Delhi, 2009.
6. Lesikar, Flatley, Rentz, Paaaande. Business Communication Making Connections in a Digital World, Mc Graw Hill Pub.,2009
7. Murphey Herta, Hilderbrandt, Thomas. Effective Business Communication, The Mc Graw Hill Company,2008
8. M.Ashraf Rizvi. Effective Technical Communication, Tata Mc Graw-Hill Publishing Company Limited, New Delhi, 2005.
9. Durga Das Basu, An Introduction to the Constitution of India, Prentice Hall, 1982
10. P.M.Bakshi, Constitution of India, Universal Law Publishing, 2010
11. Jhabwalla, Noshirvan H, The Constitution of India, c. Jamnadas & Co., 2004



### F.Y.B.Sc Foundation Course Syllabus Semester I

12. History of Indian Science & Technology: Overview of the 20-Volume Series by Rajiv Malhotra and Jay Patel, Sponsored by Infinity Foundation.

13. Agrawal, D.P. 1990. Origin of Metallurgy in Asia in History of Science & Technology in India (Ed.) G. Kuppuram & K. Kumudamani. Delhi: Sundeep Prakashan.

14. Badoni, Arun & Kiran Badoni (2001). Ethnobotanical heritage. In: Garhwal Himalaya: Nature, Culture and Society (Eds. O. P. Kandari and O. P. Gusain.). Transmedia, Media House, Srinagar, Garhwal. Pp: 127-147.

15. Jain, S. K. (1991). Dictionary of Indian Folk Medicine and Ethnobotany. Deep Publications, New Delhi.

16. Jain, S. K. (Ed.). (1996). Ethnobiology in Human Welfare. Deep Publication, New Delhi.

17. Kalra, S. K. (1997). Veterinary Science. In: History of Technology in India (Ed. A. K. Bag). Indian National Science Academy, New Delhi.

18. Pal, D. C. & S. K. Jain (1998). Tribal Medicine. Naya Prokash, Culcutta.

19. Maikhuri., R. 1992. Ecology, Environmental and Sustainable Development in Economic Development and Environment: A Case Study of India (Ed.) K.C. Ray, C.A. Tisdell and R.K. Sen. Delhi: Oxford University Press.

20. Agrawal, B.B., K.K. Parsad, G.I.S. Chauhan, P.K. Chaudhury and S.M. Aeron. 1998. Evolution of early iron making processes and their relevance in Indian context. In Achaemetallurgy in India (Ed.) Vibha Tripathi. Delhi: Sharada Publishing House.

21. Agrawal, D.P. 1970. Metal Technology of the Harappan Culture and its Socio-economic Implications. Indian Journal of History of Science 5(2)

22. Agrawal, D. P. 1971. The Copper Bronze Age in India. New Delhi: Munshiram Manoharlal.

23. Tripathi, Vibha. 2001. The Age of Iron in South Asia. New Delhi. Aryan Books International.

#### **(Human Rights, Public Interest)**

24. Shivananda, J. Human Rights. Alfa Publications, New Delhi, 2006

25. Rajawat, M. Human Rights and Dalits. Anmol Publications, New Delhi, 2005

26. Kaushal, R. Women & Human Rights in India; Kaveri Books, New Delhi, 2000

### F.Y.B.Sc Foundation Course Syllabus Semester I

27. Bajpai, A. Child Rights in India; Oxford University Press; New Delhi; 2003
28. Biju, M.R. Human Rights in a Developing Society; Mittal Publications, New Delhi, 2005
29. Prakash Kumar & Rai, K. B. Right to Know; Vikas Publishing House, NOIDA, 2008
30. Naib, Sudhir, The Right to Information Act, 2005: A Handbook; UP, New Delhi; 2011
31. Sathe, S. P. Judicial Activism in India; OUP; New Delhi, 2002
32. Schwartz, Shalom H.; Online article: Basic Human Values: An Overview, The Hebrew University of Jerusalem (URL: [www.researchgate.net](http://www.researchgate.net) > Basic-Human-Values-An-Overview)
33. Tronolone, Charlie; Online article: The Fact/Value Distinction. (URL: [www.rit.edu](http://www.rit.edu) > cla > philosophy > quine > fact\_value)
34. Online article: Values and Norms, Lumen, Cultural Anthropology. (URL: [courses.lumenlearning.com](http://courses.lumenlearning.com) > chapter > values-norms)
35. Naagarazan, R. S.; Textbook on Professional Ethics and Human Values. New Delhi, New Age International (P) Ltd. Publishers, 2006

#### **(Ecology)**

32. Satpathy, N. Sustainable Development (An Alternative Paradigm); Karnavati Publications, Ahmedabad,
33. Pachauri R.K & 1998
34. Srivastava L. (eds.) Global Partners for Sustainable Development; Tata Energy Research Institute, New Delhi; 1994
35. Shiva, Vandana Ecology and the Politics of Survival: Conflict over Natural Resources in India; Sage Publications, California, 1991
36. Pereira, W Inhuman Rights: The Western System and Global Human Rights Abuse; Apex Press; 1997
37. Pereira, W & Asking the Earth: Farms, Forestry and Survival in India; Earthscan Publications; 1991
38. Goel, S.L. Encyclopedia of Disaster Management, Vol. I, II & III; Deep and Deep Publications Pvt. Ltd., New Delhi; 2006

**F.Y.B.Sc Foundation Course Syllabus Semester I**

39. Parasuraman S. & Unnikrishnan P.V: India Disasters Report; Oxford University Press, New Delhi, 2000

**(Science and Technology)**

40. Encyclopaedia of Science and Technology; McGraw - Hill Publication

41. J B S Haldane Science and Everyday Life; Macmillan, 1941. Penguin, Ayer Co. 1975  
reprint: ISBN 0-405-06595-7

42. Kleinman Daniel Lee Science and Technology in Society; John Wiley and Sons; 2005

## Teaching Learning Methods

The teaching learning method has been designed with student centric focus. The main aim of the teaching pedagogy is to teach domain knowledge to the students. It further aims to develop critical thinking, logical analysis and comprehensive development of the students studying the subject. The teaching learning methods include:

- Classroom teaching: Explaining concepts, theories, methodologies related to the subject
- Blended learning: Use of zoom platform, explainer videos and documentaries
- Knowledge repository: Use of Google classroom
- Group discussion: online and offline based on topic taught
- Presentations: online and offline based on the syllabus
- Field visits: based on the syllabus
- Digital learning: Training students with the digital tools and technologies
- **Project Work**

## **Assessment Method**

1. Two Internals of 20 marks each. Duration 30 min for each.
2. One External (Semester End Examination) of 60 marks. Duration: 2 hours.
3. Minimum marks for passing the Semester End Examination is 40 %.
4. Students must appear for at least one of the two Internal Tests to be eligible for the Semester End Examination.
5. For any ATKT examinations, there shall be ODD-ODD/EVEN-EVEN pattern followed.
6. HOD's decision, in consultation with the Principal, shall remain final and abiding to all.

## **Evaluation and Assessment**

**Total marks per course - 100.**

**CIA- 40 marks**

CIA 1: Multiple choice questions -- 20marks

CIA 2: Multiple choice questions -- 20marks

OR

CIA 3: Compulsory Project Work along with submission of Project Report.  
Teacher Mentors for guiding students for Research Project.

**S.Y.B.Sc Foundation Course Syllabus Semester III &**



**Hindi Vidya Prachar Samiti's  
Ramniranjan Jhunjhunwala College  
of Arts, Science & Commerce  
(Autonomous College)**

**Affiliated to  
UNIVERSITY OF MUMBAI**

**Syllabus for the S.Y.B.Sc.  
Program: B.Sc FOUNDATION COURSE  
Program Code: RJSUFC301/401**

**Refer to page no: 08  
highlighting component  
of Research Project**

***CBCS***  
**2018-2019**  
**2019-2020**  
**2020-2021**  
**2021-2022**  
**2022-2023**

**S.Y.B.Sc Foundation Course Syllabus Semester III &**

**DISTRIBUTION OF TOPICS AND CREDITS**

**S.Y.B.SC FOUNDATION COURSE SEMESTER III**

<b>Course</b>	<b>Nomenclature</b>	<b>Credits</b>	<b>Topics</b>
RJSUFC301	Foundation Course II	02	<p><b>Module I:</b> Human Rights Violations &amp; Redressal</p> <p><b>Module II:</b> Dealing with Environmental Concerns</p> <p><b>Module III:</b> Science and Technology – I</p> <p><b>Module IV:</b> Soft Skills for Effective Interpersonal Communication</p>

**S.Y.B.SC FOUNDATION COURSE SEMESTER IV**

RJSUFC401	Foundation Course II	02	<p><b>Module I:</b> Significant, Contemporary Rights of Citizens</p> <p><b>Module II:</b> Approaches to understanding Ecology</p> <p><b>Module III:</b> Science &amp; Technology – II</p> <p><b>Module IV:</b> Competitive Exams &amp; Soft Skills</p> <p><b>Module V:</b> General Knowledge</p>
-----------	----------------------	----	--

**S.Y.B.Sc Foundation Course Syllabus Semester III &**

**Course outcome and Learning Outcome  
Paper II**

<b>S.Y.B.SC</b>	<b>Semester: III And IV</b>
<p>Paper II Foundation Course RJSUFC301 And RJSUFC401</p>	<p><b>Course Outcome:</b></p> <ol style="list-style-type: none"><li>1. General Problem-Solving Skills</li><li>2. Communication Skills</li><li>3. Stress and Conflict Management</li><li>4. Writing Skills</li><li>5. Understanding Other Disciplines</li><li>6. Time Management</li><li>7. Groom student to live dignified life.</li></ol> <p><b>Learning Outcomes:</b></p> <ol style="list-style-type: none"><li>i. Students will be sensitized to issues on human rights, ecology, and, science and technology.</li><li>ii. Develop a basic understanding about issues related to Human Rights of weaker sections, ecology, and science and technology.</li><li>iii. Gain an overview of competitive examinations in certain career choices.</li><li>iv. Appreciate the importance of developing a scientific temper towards technology and its use in everyday life.</li></ol>



**S.Y.B.Sc Foundation Course Syllabus Semester III &**

<b>SEMESTER III</b>		<b>L</b>	<b>Cr</b>
<b>Paper-II: Foundation Course</b>	<b>Paper Code: RJSUFC301</b>	45	2
<b>UNIT I</b>		13	
<b>Human Rights Violations &amp; Redressal</b>			
1	Scheduled Castes & Scheduled Tribes – Rights, Forms of Violations & Redressal Mechanisms		
2	Women and Children – Forms of Violations & Redressal Mechanisms		
3	Minorities, People with disabilities and the elderly – Forms of Violations & Redressal Mechanisms		
<b>UNIT II</b>		12	
<b>Dealing with Environmental Concerns</b>			
1	Concept of Disaster and general effects of disaster on human life – physical, psychological, economic and social effects		
2	Dealing with Disasters –Prevention, Mitigation (Relief & Rehabilitation) and Disaster Management		
3	Human Rights issues in addressing disasters – compensation, equitable and fair distribution of relief, humanitarian approach to resettlement and rehabilitation		
<b>UNIT III</b>		10	
<b>Science and Technology – I</b>			
1	Nature of Science – Principles and Characteristics, Science as empirical, practical, theoretical, validated knowledge		

**S.Y.B.Sc Foundation Course Syllabus Semester III &**

2	Science & Superstition – role of science in exploding myths, blind beliefs & prejudices, Science & scientific temper		
3	Science in everyday life – technology, its meaning & role in development, interrelation & distinction between science & technology		
<b>UNIT IV</b>		10	
<b>Soft Skills for Effective Interpersonal Communication</b>			
1	Effective listening skills – importance & features, Public Speaking / Presentation Skills		

<b>SEMESTER IV</b>		<b>L</b>	<b>Cr</b>
<b>Paper-II Foundation Course</b>	<b>Paper Code: RJSUFC401</b>	45	2
<b>UNIT I</b>		12	
<b>Significant, Contemporary Rights of Citizens</b>			
1	Rights of Consumers: 1. Consumer Rights and Violation of Consumer Rights 2. Consumer Protection Act 1986 & Consumer Protection Bill 2015 3. Consumer Courts and Consumer Movements		
2	Right to Information: 1. Transparency & Accountability 2. Important provisions of the RTI Act,2005 3. Some Success Stories		
3	Public Interest Litigation: 1. Need for PIL 2. Procedure to file a PIL 3. Some landmark cases		

**S.Y.B.Sc Foundation Course Syllabus Semester III &**

<b>UNIT II</b>		11	
<b>Approaches to understanding Ecology</b>			
1	Understanding approaches to ecology: Anthropocentrism, Biocentrism and Eco Centricism; Deep Ecology and Eco Spiritualism		
2	Environmental Principles I: The Sustainability Principle, Carbon Credit, The Polluter Pays Principle		
3.	Environmental Principles II: The Equity Principle, Human Rights Principles, The Participation Principle		
<b>UNIT III</b>		11	
<b>Science &amp; Technology – II</b>			
1	Laser Technology – Uses		
2	Information & Communication Technology – Uses		
3	Nanotechnology – Uses		
4	Issues of Control, Access & Misuse of Technology		
<b>UNIT IV</b>		11	
<b>Competitive Exams &amp; Soft Skills</b>			
1	UPSC, SSC, SPSC, Banking & NET/SET		
2	Motivation: Maslow & McGregor		
3	Goal Setting (SMART), Stephen Covey's concept of human endowment		
4	Time Management		

### S.Y.B.Sc Foundation Course Syllabus Semester III &

#### References:

1. Asthana, D. K., and Asthana, Meera, *Environmental Problems and Solutions*, S. Chand, New Delhi, 2012.
2. Bajpai, Asha, *Child Rights in India*, Oxford University Press, New Delhi, 2010.
3. Bhatnagar Mamata and Bhatnagar Nitin, *Effective Communication and Soft Skills*, Pearson India, New Delhi, 2011.
4. G Subba Rao, *Writing Skills for Civil Services Examination*, Access Publishing, New Delhi, 2014.
5. Kaushal, Rachana, *Women and Human Rights in India*, Kaveri Books, New Delhi, 2000.
6. Mohapatra, Gaur Krishna Das, *Environmental Ecology*, Vikas, Noida, 2008.
7. Motilal, Shashi, and Nanda, Bijoy Lakshmi, *Human Rights: Gender and Environment*, Allied Publishers, New Delhi, 2007.
8. Murthy, D. B. N., *Disaster Management: Text and Case Studies*, Deep and Deep Publications, New Delhi, 2013.
9. Parsuraman, S., and Unnikrishnan, ed., *India Disasters Report II*, Oxford, New Delhi, 2003.
10. Reza, B. K., *Disaster Management*, Global Publications, New Delhi, 2010.
11. Sathe, Satyaranjan P., *Judicial Activism in India*, Oxford University Press, New Delhi, 2003.
12. Singh, Ashok Kumar, *Science and Technology for Civil Service Examination*, Tata McGraw Hill, New Delhi, 2012.
13. Thorpe, Edgar, *General Studies Paper I Volume V*, Pearson, New Delhi, 2017.

## **Teaching Learning Methods**

The teaching learning method has been designed with student centric focus. The main aim of the teaching pedagogy is to teach domain knowledge to the students. It further aims to develop critical thinking, logical analysis and comprehensive development of the students studying the subject. The teaching learning methods include:

- Classroom teaching: Explaining concepts, theories, methodologies related to the subject
- Blended learning: Use of zoom platform, explainer videos and documentaries
- Knowledge repository: Use of Google classroom
- Group discussion: online and offline based on topic taught
- Presentations: online and offline based on the syllabus
- Field visits: based on the syllabus
- Digital learning: Training students with the digital tools and technologies
- **Project Work**

**Syllabus Framework as per LOCF**

**Assessment Method**

1. Two Internals of 20 marks each. Duration 30 min for each.
2. One External (Semester End Examination) of 60 marks. Duration: 2 hours.
3. Minimum marks for passing the Semester End Examination is 40 %.
4. Students must appear for at least one of the two Internal Tests to be eligible for the Semester End Examination.
5. For any ATKT examinations, there shall be ODD-ODD/EVEN-EVEN pattern followed.
6. HOD's decision, in consultation with the Principal, shall remain final and abiding to all.

**Evaluation and Assessment**

**Total marks per course - 100.**

**CIA- 40 marks**

CIA 1: Multiple choice questions -- 20marks

CIA 2: Multiple choice questions -- 20marks

OR

CIA 3: Compulsory Project Work along with submission of Project Report.  
Teacher Mentors for guiding students for Research Project.