

SHIVAJI UNIVERSITY, KOLHAPUR.



Accredited By NAAC with 'A' Grade

CHOICE BASED CREDIT SYSTEM

Syllabus For

B.A. Part - I

Science Technology and Development (S.T.D.)

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

Generic Elective for B.A. Part - I
Science Technology and Development
June 2018 onwards

B.A. I

Sr. No.	Semester	Name of the Course	Generic Elective
1	I	Science Technology and Development (STD) - I	Science Technology and Development (STD) Course- 1
2	II	Science Technology and Development (STD) - II	Science Technology and Development (STD) Course- 2

B.A. Part – I
Generic Elective – I (Compulsory)
Science Technology and Development
CGE-1B

Science Technology and Development (STD)

Preamble: This paper intends to acquaint the students with various dimensions of, as also the challenges, confronting the Science Technology and Development. The STD students of B. A. Part-I can bitterly understand all latest concepts in Science Technology and Development in brief but in adequate manner.

The objective of this course is to introduce the latest concepts in Science Technology and Development, Specifically in Fundamental concept in scientific thinking, Contribution of Eminent Scientist, Non Conventional Power Resources of India, Disaster Management, Communication and Information Technology Space Research and Defense and Ocean Research.

Semester – I

	Teaching Hours	Credits
Module – I Introduction to Science and Technology	15	01
1.1 Science and Technology:Definitions, Nature, Scope		
1.2 Fundamental Concepts in Scientific Thinking		
1.3 Stages in the Study of Science Observation, Experiment – Analysis Result and Hypothesis.		
1.4 Impact onScience and Technology on Society		
1.5 Science and Superstitions		
1.6 Development of Science and Technology		
 Module - II Contribution of Eminent Scientist in the Development of Science and Technology	 15	 01
2.1 Newton		
2.2 Einstein		
2.3 Edison		
2.4 Dr. HomiBhabha		
2.5 Dr. M.S.Swaminathan		
2.6 Dr. A.P.J Abdul Kalam		
 Module – III Non Conventional Power Resources of India	 15	 01
3.1 Importance of Power Resources		
3.2 Types of Power Resource		
3.3 Non Conventional Power Resources		
3.3.1 Solar Energy		
3.3.2 Wind Energy		
3.3.3 Hydel power Energy		
3.3.4 Nuclear Energy		
3.3.5 Bio Energy		

3.3.6 Geo-Thermal Energy

3.3.7 Tidal Energy

3.4 Carbon Credit

Module – IV Science, Technology and Human Health **15** **01**

4.1 Impact of Science and Technology on Human Health

4.2 Human Blood – Blood Groups Importance of Matching Blood Groups in Human Health

4.3 AIDS – A Challenge before World Facts Figures Causes, Effects, Treatment, Social Outlook.

4.4 Addiction a Social Problem, types, Causes Effects and Solution.

4.5 Need of Cleanliness: “Swachh Bharat Abhiyan” (Clean India Mission)

Reference Books

- 1) Introduction to Information Science and Technology, Edited by Charles H. Davis and Debora Shaw, 2011.
- 2) Annual Review of Information Science and Technology (ARIST) 39. By Blaise Cronin, Information Today, 2004.
- 3) Encyclopedia of Computer Science and Technology (Facts on File Science Library) Hardcover – Import, 15 Jan 2009
- 4) Encyclopedia of Space Science and Technology, Wiley Online Library.
- 5) Indian Ocean Research Volumes: Geopolitical Orientations, Regionalism and Security in the Indian Ocean (Routledge Revivals), Dennis Rumley, Sanjay Chaturvedi (Editor) 2015
- 6) Disaster Management In India, Kadambari Sharma, 2010.
- 7) Bagila A.V. (Ed) Science and Society, Lavani Publication House, 1972.
- 8) Bose D.M (Ed), A Concise History Science in India, Indian National Science Academy, 1971.
- 9) Butle J.A.V, Science and Human Life, Pergamon Press, London.
- 10) Encyclopedia Britannica.
- 11) Flower W.S, The Development of Scientific Method, Pergamon Press, London, 1962.

मराठीपुस्तके:

1. विज्ञानाचा समाजधारणेवरील परिणाम – कमलाकरदीक्षित, समाजप्रबोधनसंस्था.
2. शास्त्रीयविचारपद्धती – अ.भि.शहासमाजप्रबोधनसंस्था.
3. जीवनाभिमुखविज्ञान – शिवाजीविद्यापीठप्रकाशन.
4. वैज्ञानिकअभ्यासाची गाथा - शिवाजीविद्यापीठप्रकाशन.
5. विज्ञानतंत्रज्ञानाणिप्रगती—डॉ. जयसिंगरावपवार, प्रा. निषांतसुर्यवंशी, फडकेप्रकाशन, कोल्हापूर.

6. विज्ञानतंत्रज्ञानआणिप्रगती-प्रा. हरिचंद्रपाटील, प्रा. अनिल घस्ते, प्रा. अरुण पाटीलप्रा.
रामराजेदेशमुख, निरालीप्रकाशन, पुणे.
7. विश्वकोष.

B.A. Part – I
Generic Elective – II (Compulsory)
Science Technology and Development
CGE-2B

Preamble: This paper intends to acquaint the students with various dimensions of, as also the challenges, confronting the Science Technology and Development. The STD students of B. A. Part-I can bitterly understand all latest concepts in Science Technology and Development in brief but in adequate manner.

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Semester – II

	Teaching Hours	Credits
Module - I Disaster Management	15	01
1.1 Types of Disaster		
1.2 Earthquake		
1.3 Flood		
1.4 Drought		
1.5 Fire		
1.6 Accident		
1.7 Crowd		
Module –II Means of Communication and Information Technology	15	01
2.1 A Brief History of Communication		
2.2 Origin Development and Importance of Computer		
2.3 Computer Network		
2.4 Internet		
2.5 Computer Viruses		
2.6 Information Technology		
Module – III Science Technology in Space Research	15	01
3.1 Beginning of Satellite Era in the World		
3.2 Rocket Technology		
3.3 Artificial Satellite – Types and Usages		
3.4 Satellite Programme of India		
3.5 Introduction of: a) Geographical Information System (GIS)		
b) Geographical Positioning System (GPS)		
Module – IV Science Technology in India’s Defence and Ocean Research	15	01
4.1 Science Technology in National Defence		
4.2 Defence Research and Development Organization (DRDO)		

- 4.3 Importance of Ocean Study
- 4.4 Indian Institute of Oceanography
- 4.5 Antarctica Expedition of India

Reference Books

1. Introduction to Information Science and Technology, Edited by Charles H. Davis and Debora Shaw, 2011.
2. Annual Review of Information Science and Technology (ARIST) 39. By Blaise Cronin, Information Today, 2004.
3. Encyclopedia of Computer Science and Technology (Facts on File Science Library) Hardcover – Import, 15 Jan 2009
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6. Disaster Management In India, Kadambari Sharma, 2010.
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8. Bose D.M (Ed), A Concise History Science in India, Indian National Science Academy, 1971.
9. Butle J.A.V, Science and Human Life, Pergamon Press, London.
10. Encyclopedia Britannica.
11. Flower W.S, The Development of Scientific Method, Pergamon Press, London, 1962.

मराठीपुस्तके:

8. विज्ञानाचासमाजधारणेवरीलपरिणाम – कमलाकरदीक्षित, समाजप्रबोधनसंस्था.
9. शास्त्रीयविचारपद्धती – अ.भि.शहासमाजप्रबोधनसंस्था.
10. जीवनाभिमुखविज्ञान – शिवाजीविद्यापीठप्रकाशन.
11. वैज्ञानिकअभ्यासाचीगाथा - शिवाजीविद्यापीठप्रकाशन.
12. विज्ञानतंत्रज्ञान आणि प्रगती—डॉ. जयसिंगराव पवार, प्रा. निशांत सुर्यवंशी, फडके प्रकाशन, कोल्हापूर.
13. विज्ञानतंत्रज्ञान आणि प्रगती—प्रा. हरिचंद्र पाटील, प्रा. अनिल घस्ते, प्रा. अरुण पाटील प्रा. रामराजे देशमुख, निरालीप्रकाशन, पुणे.
14. विश्वकोष.

EQUIVALENCE

Sr. No.	Semester	Old Name	P. No.	New Name
1	I	Science Technology and Development (STD)	I	Science Technology and Development (STD) Generic Elective -1
2	II	Science Technology and Development (STD)	II	Science Technology and Development (STD) Generic Elective -2

Course Structure for B.A. Part - I: Science Technology and Development

Sr. No.	Semester	Title of the Paper	Disipline	Distribution of Credit	Workload	Total Credit	Theory Marks
1.	I	Science Technology and Development - I	Science Technology and Development Course-1	4	4 Lectures/ week	08	50
2.	II	Science Technology and Development - II	Science Technology and Development Course-1	4	4 Lectures/ week		50