

Rayat Shikshan Sanstha`s
Sadguru Gadage Maharaj College, Karad
(An Autonomous College)



Accredited By NAAC with 'A+' Grade

CHOICE BASED CREDIT SYSTEM

Syllabus For

B.A. Part - I

STD

(Science Technology & Development)

(Syllabus to be implemented from June, 2022 onwards.)



Rayat Shikshan Sanstha's,
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B.A.I STD (IDS)

Sr. No.	Semester	Name of the Course	Subject code	Discipline Specific Elective
1	I	Science Technology & Development	STD1	STD Course-1
2	II	Science Technology & Development	STD2	STD Course-2

Course Structure

B.A. Part - I: STD

Sr. No.	Sem.	Title of the Paper	Discipline Specific Elective	Distribution of Credit	Workload Per week	Total Credit	Theory Marks	Internal Evaluation
1	I	Science Technology & Development	STD Course-1	4	4 Lectures	08	40	10
2	I	Science Technology & Development	STD Course-2	4	4 Lectures		40	10

Intake capacity / number of students (wherever applicable)



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Choice Based Credit System

B.A. Part – I, SEMESTER - I

Science Technology & Development (STD) Course – 1

June 2022 onwards

Paper: Science Technology & Development

Subject Code- (STD1)

(Credit 04)

(Teaching Hours: 60)

Course Outcomes:

1. Understanding of latest concepts in Science Technology and Development
2. Acquaintance with Contribution of Eminent Scientist
3. Understanding of non-conventional power resources of India
4. Familiarity with Science Technology and Human Health

Module No 1: Introduction to Science and Technology

(15 hours)

- 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 of Science and Technology on Society
- 1.5: Science and Superstitions, introduction to *Maharashtra Jadutona Virodhi kayada*
- 1.6: Development of Science and Technology

Module No 2: Contribution of Eminent Scientist in the Development of Science and Technology

(15 hours)

- 2.1: Sir Isaac Newton
- 2.2: Louis Pasteur
- 2.3: Thomas Edison
- 2.4: Dr. Jayant Narlikar
- 2.5: Dr. M.S. Swaminathan
- 2.6: Dr. A.P.J. Abdul Kalam

Module No 3: Non-Conventional Power Resources of India

(15 hours)

- 3.1: Importance of Power Resources
- 3.2: Types of Power Resources

Non-Conventional Power Resources

- a) Solar Energy
- b) Wind Energy
- c) Hydelpower Energy
- d) Nuclear Energy
- e) Bio Energy
- f) Geo- Thermal Energy
- g) Tidal Energy
- h) Carbon Credit

Module No 4: Science, Technology and Human Health

(15 hours)

- 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 Solutions.
- 4.5: Need of Cleanliness:“Swachha *Bharat Abhiyan*” (Clean India Mission)

References:

- 1) Charles H. Davis and Debora Shaw,(Edited) ,2011, Introduction toInformation science and Technology
- 2) Blaise Cronin, Information Today, 2004, Annual Review of InformationScience and Technology (ARIST) 39.
- 3) Encyclopedia of Computer Science and Technology9Facts on File ScienceLibrary) Hardcover-Impact,15Jan 2009
- 4) Encyclopedia of Computer Science and Technology, Wiley Online Library.
- 5) Dennis Rumley,SanjayChaturvedi (Editor) 2015, Indian Ocean Research Volumes : Geographical Orientations, Regionalism and Security in the Indian Ocean (Rutledge Revivals)
- 6) Kadambari Sharma, 2010, Disaster Management In India,
- 7) Bagila A.V. (Ed) Science and Society,1972, Lavani Publication House,Delhi.
- 8) Bose D.M.(Ed), A Concise History Science in India,1971, Indian NationalScience academy, Banglore.
- 9) Butle J.A.V, Science and Human Life, Pergamon Press, London.
- 10) Encyclopedia Britannica
- 11) Flower W.S, The Development of Scientific Method,1962, Pergamon Press,London,.

- 12) मराठी विश्वकोश, महाराष्ट्र राज्य मराठी विश्वकोश निर्मिती मंडळ, मुंबई.
- 13) पवार जयसिंगराव, सूर्यवंशी, विज्ञान,तंत्रज्ञान आणि प्रगती, २०११, फडके प्रकाशन मुंबई.
- 14) नलगे,दिलीप मुळीक, अशोक, विज्ञान,तंत्रज्ञान आणि प्रगती, १९९७, मेहता पब्लिशिंग हाउस, मुंबई.
- 15) कोळवे रंजन, विज्ञान,तंत्रज्ञान आणि विकास, २०१४, दीपस्तंभ प्रकाशन, जळगाव.
- 16) शिवाजी विद्यापीठ, विज्ञान,तंत्रज्ञान आणि प्रगती,२०१०,शिवाजी विद्यापीठ, कोल्हापूर.
- 17) जोगळेकर, प्रमोद, आधुनिक भारतातील विज्ञान व तंत्रज्ञान, २०११, के.सागर पब्लिकेशन, पुणे.
- 18) पाटील, घस्ते, माने-देशमुख, विज्ञान,तंत्रज्ञान आणि प्रगती, २००८, निराली प्रकाशन, पुणे.



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Choice Based Credit System

B.A. Part – I, SEMESTER - I

Science Technology & Development (STD) Course – 2

June 2022 onwards

Paper: Science Technology & Development

Subject Code- (STD2)

(Credit 04)

(Teaching Hours: 60)

Course Outcomes:

1. Understanding of Disaster Management
2. Acquaintance with Communication and Information Technology
3. Understanding of Information Technology, Space Research
4. Familiarity with Science, Technology in Indian Defense and agriculture

Module No 1: Disaster Management

(15 hours)

- 1.1: Types of Disaster
- 1.2: Earthquake
- 1.3 : Flood
- 1.4: Drought
- 1.5: Fire
- 1.6: Accident
- 1.7: Crowd

Module No 2: Means of Communication and Information Technology

(15 hours)

- 2.1: A Brief History of communication
- 2.2 : Origin, Development and Importance of Computer
- 2.3: Computer Network
2. 4: Internet and Social Media
- 2.5: Computer Viruses
- 2.6 : Information Technology
- 2.7: Artificial Intelligence

Module No 3: Science Technology in Space Research

(15 hours)

- 3.1: Beginning of Satellite Era in the World
- 3.2: Rocket Technology
- 3.3: Artificial Satellite-Types and Usages
- 3.4: Satellite Program of India : Introduction of
 - a) Geographical Information System (GIS)
 - b) Geographical Positioning System (GPS)

Module No 4: Science, Technology in Indian Defense and Agriculture (15 hours)

- 4.1: Science, Technology in National Defense
- 4.2 : Defense Research and Development Organization (DRDO)
- 4.3: Modern agro-technology
- 4.4 : New technology in irrigation system
- 4.5 : New Technology in storage of agro-products

References:

- 1) Charles H. Davis and Debora Shaw,(Edited),2011, Introduction to Information science and Technology
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- 13) पवार जयसिंगराव, सूर्यवंशी, विज्ञान, तंत्रज्ञान आणि प्रगती, २०११, फडके प्रकाशन मुंबई.
- 14) नलगे, दिलीप मुळीक, अशोक, विज्ञान, तंत्रज्ञान आणि प्रगती, १९९७, मेहता पब्लिशिंग हाउस, मुंबई.
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Revised Question Paper Pattern

Under Graduate

- Instruction: 1) All Questions are Compulsory.
2) All Questions carry equal marks.
3) Figures to the right indicate full marks.

Day and Date:

Total Marks: 40

Time:

Q. 1. Q. 1. Objective Questions

A) Choose the correct alternatives from the following.

10

1.

A) B) C) D)

2.

A) B) C) D)

3.

A) B) C) D)

4.

A) B) C) D)

5.

A) B) C) D)

6.

A) B) C) D)

7.

A) B) C) D)

8.

A) B) C) D)

9.

A) B) C) D)

10.

A) B) C) D)

B) Answer in one sentence

05

1.

2.

3.

4.

5.

Q.2. Write short Notes (*Three out of Four*)

15

A)

B)

C)

D)

Q.3. Answer following questions in broad.

10

A)

OR

B)



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Revised Question Paper Pattern

Under Graduate

Internal Evaluation Methods

UG (10 Marks)

Ist Year Sem-I	Home Assignment
I st Year Sem- II	Home Assignment

Sr. No.	Social Sciences
1	Class Test
1	Written Test
2	Online Test
3	Open-book Test
4	Surprise Test
2	Assignment-
	Group Discussion-
	Seminar/Project-
	Book Review/ Seminar-
	Research Paper/ Research Project
3	Subject Specific Activities
1	Article writing in news paper
2	Blog Writing
3	Collection of Climatic Data
4	Debate
5	Downloading of Satellite Imageries
6	Excursion
7	Field Survey
8	Poster
9	Quiz
10	Report Writing
11	Societal Activities
12	Surveying
13	Theme Based-Paper cutting