

VIVEKANAND COLLEGE, KOLHAPUR
SYLLABUS CBCS SYSTEM
B. A. Part - I
Ability Enhancement Compulsory Course (AECC)
Science Technology and Development (STD) Core Course-1
June 2021 onwards
SEMESTER—I

1. Course Objectives:

B.A.I.	Science Technology and Development (GEC) -1
CO No.	On completion of the course, student will be able to:
CO1	Familiar with various concepts of Science and Technology
CO2	Understand the contribution of Eminent Scientists in the development of science & technology
CO3	aware about the status of science and technology concerning human health
CO4	Understand non-conventional power resources in India

Learning outcome: After the completion of this course students are expected to be familiar with the basic scientific concept. Besides, they will be acquainted with the new research in basic science, communication Technology, space Science defense, Ocean research and disaster management

2. Proposed Course Structure for B. A. I (STD)

Sr. No.	Seme ster	Title of the Paper	Discipl ine	Credit	Workload Per Week	Total Credits	Marks	
							Theory	Term Work
1	I	Science Technology and Development (STD) Paper-I	Arts	04	04	08	35	15
2	II	Science Technology and Development (STD) Paper-II	Arts	04	04		35	15



3. Nature of Question Paper: -

Q.N.	Nature of Question Paper	Total Marks: - 35	Internal Evaluation: - 15
Q.1	A) Multiple choice questions.	05	Module 01 & 02: Test 1
Q.2	A) Long answer type question. or B) Long answer type question.	10	Skill Enhancement Assessment
Q.3	A) Long answer type question. or B) Long answer type question	10	
Q.4	Short Note (any 2 out of 4)	10	
	Total	35	15



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Module No.	Module Title	Teaching Hours	Credits
1	Introduction to Science and Technology 1.1 Science and Technology: Definition, Nature, scope 1.2 Fundamental Concept in Scientific Thinking 1.3 Stages in the Study of Science: Observation, Experiment, Analysis, Result and Hypotheses 1.4 Impact of Science and Technology on Society 1.5 Science and Superstitions 1.6 Development of Science and Technology	15	01
2	Contribution of Eminent Scientists in the Development of Science and Technology 2.1 Newton 2.2 Einstein 2.3 Edison 2.4 Dr. Homi Bhabha 2.5 Dr. M. S. Swaminathan 2.6 Dr. A. P. J. Abdul Kalam	15	01
3	Science Technology & Human Health 3.1 Impact of Science and Technology on Human Health 3.2 Human Blood: Blood Groups, Importance of Matching Blood Groups in Human Health 3.3 Diet: Need of Balance Diet 3.4 Covid 19: Causes, Effects, Treatment, Social Outlooks 3.5 Addiction a Social Problem, Types, Causes, Effects & Solution	15	01
4	Non- Conventional Power Recourses of India 4.1 Importance of Power Recourses 4.2 Types of Power recourses 4.3 Non- Conventional Power Recourses 4.3.1 Solar Energy 4.3.2 Wind Energy 4.3.3 Nuclear Energy 4.3.4 Bio Energy 4.3.5 Geo- thermal Energy 4.3.6 Tidal Energy 4.4 Carbon Credits	15	01



References:

1. Balia A. V. (Ed) Science and Society, Lavani Publication House, 1972
2. Bose D. M. (Ed) A Concise History of Science in India, Indian National Science Academy, 1971
3. Butle J. A. V., Science and Human Life, Pergamon Press, London, 1962
4. Flower W.S., The Development of Scientific Method, Pergamon Press, London, 1962
5. Dennis Rumley, Sanjay Chaturvedi, Geopolitical Orentations, Regionalism and Security in the Indian Ocean, Indian Ocean Research, 2015
6. Kadambari Sharma, Disaster Management In India, 2010
7. प्रा अनिल .प्रा ,हरीशंद्र पाटील .घस्तेरामराजे द .प्रा ,अरुण पाटील .प्रा ,ेशमुख“ :विज्ञान, ”तंत्रज्ञान आणि प्रगती ,निराली प्रकाशन.ऑगस्ट २००८ ,
.8डॉ“ :निशांत सूर्यवंशी ,जयसिंगराव पवार .विज्ञान ,”तंत्रज्ञान आणि प्रगती ,फडके प्रकाशन.ऑगस्ट २०१० .
.9कमलाकर दीक्षित“ :विज्ञान समाजधारणेवरील परिणाम ,”समाजप्रबोधन संस्था.
.10अ.समाजप्रबोधन संस्था ,शास्त्रीय विचार पद्धती :शहा.भि.
.11शिवाजी विद्यापीठ प्रकाशन.जीवनाभिमुख विज्ञान :
.12विश्वकोष .



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SEMESTER—II

1. Course Objectives:

B.A.I.	Science Technology and Development (GEC) -2
CO No.	On completion of the course, student will be able to:
CO1	Familiar with various means of communication
CO2	Introduce the latest concepts in Science Technology & development with space research in fundamental concept in scientific thinking.
CO3	Understand science technology in Indian Défense & Ocean Research
CO4	Understand & Describe disaster management in Earthquake, Floods, Drought, Forest fires etc.

2. Learning outcome: After the completion of this course students are expected to be familiar with the basic scientific concept. Besides, they will be acquainted with the new research in basic science, communication Technology, space Science defense, Ocean research and disaster management

Module No.	Module Title	Teaching Hours	Credits
1	Means of Communication and Information Technology 1.1 Brief History of Communication 1.2 Origin, Development and Importance of Computer 1.3 Computer Network 1.4 Internet 1.5 Computer Viruses 1.6 Information Technology (IT)	15	01
2	Science Technology in Space Research 2.1 Beginning of Satellite Era in the World 2.2 Rocket Technology 2.3 Artificial Satellite- Types and Uses 2.4 Satellite Programme of India 2.5 Introduction of: a) Geographical Information System (GIS) b) Global Navigation Satellite System (GNSS)	15	01
3	Science Technology in Indian Defense and Ocean Research 3.1 Science Technology in National Defense 3.2 Defense Research and Development Organization (DRDO) 3.3 Importance of Ocean Study 3.4 National Institute of Oceanography (NIO) 3.5 Antarctica Expedition of India	15	01

4	Disaster Management 4.1 Disaster Studies: Objectives and importance 4.2 Disaster Causes, Effects and management 4. 2.1 Earthquake 4. 2.2 Flood 4. 2.3 Drought 4. 2.4 Forest Fire	15	01
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