ANNEXURE VI

Basket of IKS

(Select any one course from the Basket)

BASKET

S.N.	Semester	Category	Course code	Course name
1	2nd sem	IKS-I	BIK2T01A	Consciousness Studies
2			BIK2T01B	Preserving Art, Culture and Tradition
3			BIK2T01C	Wellness, traditional medicines and yoga
4			BIK2T01D	Glimpses of ancient Science and Technology

INDIAN KNOWLEDGE SYSTEM (IKS) BASKET

(Select any one course from this basket)

Consciousness Studies

Semester: II **Course Code: BIK2T01A**

Course Credit: 2 Total Marks: CIE – 30 SEE - 70

Teaching Load: 2(Theory)/week

Course objectives:

After the completion of Course, Students will be able to.....

CO1 Analyze the basics of Psychology and its applications

CO2 Develop knowledge about the sensory processes and perception

CO3 Apply various theories of classical conditioning

CO4 Integrate the theories of memory and behaviour of mind

Unit I: An introduction to Psychology Introduction to Psychology, Definition of psychology, history, methods in Psychology, Subfields of Psychology and its applications

Unit II: Basic Cognitive Processes Sensory processes-general characteristics of senses, visual sense, auditory sense, other senses Perceptual organization-principles of perceptual organization, object perception and perceptual constancies, influences upon perception, extrasensory perception

Unit III: Learning

Classical conditioning, theories about classical conditioning, Reinforcement and Punishment

Unit IV: Memory

Theories about memory, brain and memory, long term memory, forgetting

Reference Books:

1. Clifford T. Morgan, King, Weisz and Schopler, Introduction to Psychology, McGraw

Hill Education (India) Private Limited

2. Hilgard, Atkinson and Atkinson (1977). Introduction to Psychology. Tata McGraw Hill

3. Kao H.S R.& Sinha D. (Eds) (1977). Asian perspectives on psychology. New Delhi: Sage

Preserving Art, Culture and Tradition

Semester: II **Course Code: BIK2T01B**
Course Credit: 2 Total Marks: CIE – 30 SEE - 70
Teaching Load: 2(Theory)/week

Course Objective: To provide overview of Indian Knowledge System (IKS) and sensitize the students to the contributions made by Indians in the field of philosophy, art and health.

Course Outcomes: On completion of the course, students will be able to-
1. Interpret basics of Indian Knowledge system.
2. Integrate the teaching of Indian culture and civilization
3. Appreciate Indian artistic tradition.
4. Analyze Indian health and wellness system for healthy living

Syllabus

UNIT 1:
Introduction to Indian Knowledge System Introduction and overview of Indian Knowledge system, The Vedic Corpus -Vedas, Types of Vedas, Upavedas, Types of Upavedas [8 Hours]

UNIT 2:
Indian Culture and Civilization Indian culture and Civilization: its characteristics, Difference between Culture and Civilization, Indus valley civilization, Vedic civilization. [8 Hours]

UNIT 3:
Indian Artistic Tradition, Indian Artistic tradition: Chitrakala- Indian style painting (Madhubani, Warli, Phad, Kalamkari, Gond, Mandana), Nritya: Indian dance forms (Bharatnatyam, Kathak, Kathakali, Kuchipudi, Manipuri, Mohiniattyam) Sangeet- Carnatic music & Hindustani music [8 Hours]

UNIT 4:
Health and Wellness
Health and Wellness, Wellbeing: Mental & Physical, Dimensions of Wellness, Concept of healthy living in Ayurveda, Tri-doshas –Relationship to Health [8 Hours]

Activity: Prepare PPTs/Posters/Videos on any two topics

Books Recommended:

1. Introduction to Indian Knowledge System by Mahadevan, B, Bhat, Vinayak Rajat, Nagendra Pavana R.N., Prentice Hall India Pvt., Limited, 2022.
2. Indian knowledge Systems, Kapil Kapoor, Avadhesh Kumar Singh, D.K, Printworld.
3. Traditional Knowledge System in India by Amit Jha, Atlantic Publishers, 2002
4. Exploring The Mysterious, By T.N. Dhar · Mittal Publications, 2004
5. Indian Art & Culture (E), By Anurag Kumar, Arihant Publication India Limited, 2016
6. A History of Indian Philosophy, Volume 2, By Surendranath Dasgupta, Diamond Publishers, 2017
7. Sri Suresh Soni, Sources of our cultural heritage, Prabhat Prakashan, 2018.
8. A Beautiful Tree by Dharampal, Rashtrotthana Sahitya, 2021

Wellness, traditional medicines and yoga

Semester: II **Course Code: BIK2T01C**
Course Credit: 2 Total Marks: CIE – 30 SEE - 70
Teaching Load: 2(Theory)/week

Course Objective:
The course will enable engineering students to acquire the knowledge of richness of healthy lifestyle and strong heritage of yoga and Vedas in Indian traditional system.

Course Outcomes:
On successful completion of the course, the students will able to:
CO1 Understand the importance of a healthy lifestyle
CO2 Familiarize to manage stress and health consciousness about physical and mental health.
CO3 Appreciate the benefits of yoga and medicinal plant.
CO4 Identify the social changes in Indian society.

Unit1: Importance of health and wellness, Essential components of balanced diet for healthy living, Processed foods and unhealthy eating habits.

Unit 2:
Body systems and common diseases, Sedentary lifestyle and its risk of disease, Stress, anxiety, and depression, Factors affecting mental health.

Unit 3:
Importance and benefits of yoga, Purpose of yoga, traditional knowledge of medicinal plant, use of home available herbs and spices.

Unit 4:
Vedas and it types, social change in Indian society, social stratification and class conflicts.

Textbooks/References:
1. Sociology in India – Surendra Sharma, Rawat Publication.
2. Bradfird B, Strand and Others. Fitness Education Arizona GorsuchSeani; sbrick Publishers, 1997.
3. Scott K. Powers and Stephen L. Dodd. Total Fitness: Exercise, Nutrition and wellness, Boston: Allyn and Bacon, 1999.
4. Rigveda Samhita with Sayanabhasya, Vaidik Samshodhan Mandal, Pune
5. Riksuktashati, H. D. Velankar, Bharatiya Vidya Bhavan, Mumbai

Glimpses of ancient Science and Technology

Semester: II **Course Code: BIK2T01D**
Course Credit: 2 Total Marks: CIE – 30 SEE - 70
Teaching Load: 2(Theory)/week

Course Objectives:
1 To provide the students with scientific foundation of Ancient Indian Knowledge System
2 To create awareness about scientific heritage of the ancient civilization

Course Outcomes:
After successful completion of this course the student will be able to
CO1 To provide information about great mathematicians and to help students to trace, identify, practice, and develop the significant Indian mathematics
CO2 To understand the concept of motion and its application in Indian ancient physics literature.
CO3 To understand the concepts of basic chemical & metallurgical process of ancient and medieval India.

SYLLABUS

UNIT 1: Mathematics in India: Introduction of inception of Mathematics from vedic periods. Great Mathematician and their contribution (e.g. Arytabhatta, Bhaskara, Brahmagupta, Ramanujan, Pingala, Bhaskara-II), Sulbhasutras (Pythagoras theorem), Square, Square root, Square root of imperfect Squares, Magic Squares, Value of Pi.

UNIT 2: Physics in India: Vaisheshikadarshan Atomic theory & law of motion, theory of Panchmahabhoota, BrihathShathaka (divisions of the time, unit of distance), Bhaskarachaya (Introduction to theory of Gravity, Suryasiddhanta &Sidhantashriomani), Lilavati (Gurutvakashan Shakti).

UNIT 3: Chemistry in India:Vatsyayana, Nagarjuna, Vagbhaṭa –building of Theras-Shala (laboratory), working arrangements of Ras-Shala, material and equipment,YaśodharaBhaṭṭa-process of distillation, apparatus. Metallurgy in India: Survarṇa(gold) and its different types, properties, Rajata(silver), Tamra(copper), Loha(iron), Jasta(zinc), Naga /Sisa(lead), Pittala(brass).

UNIT 4: Medicines and Yog in India: Importance and benefits of yoga, Purpose of yoga, traditional knowledge of medicinal plant, use of home available herbs and spices.

Text Books Recommended:

1. R P Kulkarni, Glimpses of Indian Engineering and Technology (Ancient & Medieval period, Munshiram Manoharlal Publishers Pvt. Ltd. 2018
2. AK Pathak, Science and Technology in India, Anshika prakashan pratapgarh, 2016
3. PB Sharma, S. Narain, Doctors Scientists and Engineers of Ancient India, Kalpaz Publications 2017
4. NVP, Unithiri, Indian Scientific Traditions (Professor K.N. NeelakantanElayath Felicitation Volume), publication division university of Calicut, 2006
5. Anonyms, History of Science in India- Volume-I Part-I (Physics, Mathematics and Statistics), the national academy of science, India & the Ramkrishna mission institute of culture, 2014

Reference Books Recommended:

1. Kapur K and Singh A.K (Eds) 2005). Indian Knowledge Systems, Vol. 1. Indian Institute of Advanced Study, Shimla. Tatvabodh of Sankaracharya, Central Chinmay Mission Trust, Bombay, 1995
2. Dharmpal, Indian Science and Technology in the eighteen century, Rashtrottahanasahitya, 1983
3. S Biswal, B L Ray, Vedic Science and technology, DK Print world, 2009
4. A. K. Bag, History of technology in Indian (Set 3 vol), Indian Nation Science Academy, 1997.
5. A Gosh, History of Science in India (Volume-I Part-II Astronomy), the national academy of science, India & the Ramkrishna mission institute of culture, 2014