

GOVT. MILLENNIUM POLYTECHNIC CHAMBA

LESSON PLAN : HYDRAULICS AND PNEUMATIC SYSTEMS				(SESSION: JAN-JUNE. 2026)	
MECHATRONICS ENGINEERING (SEMESTER - 4th)					
S.NO.	MONTH	WEEK	DATE	CONTENT (THEORY)	REMARKS
1	JAN	5TH	27,28,29	UNIT-I Introduction: Need scope and importance of hydraulic and pneumatic, Hydrostatic and hydrodynamic definitions, properties of fluid, Pascal's law, Continuity equation and Bernoulli's equation. Advantages and limitations of hydraulic and pneumatic systems.	
2	FEB	1st	2,3,4,5	UNIT-II Hydraulic Elements: Hydraulic Pipes-Type, materials, designations, pressure ratings and selection criteria. Piping Layout, Concept, rules/norms. Hydraulic Pump-Type, construction, working applications and selection criteria. Power pack Control Valves- Type, designation, symbols, working and applications. Hydraulic Actuators-Type, working and applications. Other Element such as filters, manifold, receivers, coolers and connectors.	
		2nd	9,10,11,12		
		3rd	16,17,18,19		
		4th	23,24,25,26		
3	MAR	1st	2,3,5	UNIT-III Fundamentals of Pneumatics: Compressible fluid flow, mass flow rate, compressible fluidType, properties and applications. UNIT-IV Pneumatic Elements: Pipes-Type, designations, applications and properties. Air Compressor- Type (Reciprocating and rotary), working and selection criteria.	
		2nd	9,10,11,12		
		3rd	16,17,18,19		
		4th	23,24,25		
		5th	30,31		
4	APRIL	1st	1,2	Pneumatic Cylinders- Type, symbol, cushion, assemblies, mounting and installation.	
		2nd	6,7,8,9	Air Motors-Type, working and applications.	
		3rd	13,16	Pneumatic Valves-Type, symbols, working, applications and selection criteria.	
		4th	20,21,22,23	Other elements-Air receivers, filters, pressure regulator, lubricator.	
		5th	27,28,29,30		
5	MAY	1st	4,5,6,7	UNIT-V Hydraulic and Pneumatic Circuits: Concept, Meaning and ISO symbols, Basic hydraulic and pneumatic circuits-Type, circuit diagrams. Rules/Norms for designing hydraulic and pneumatic circuits	
		2nd	11,12,13,14		
		3rd	18,19,20,21		
		4th	25,26		


Mithun Thakur
 (Lect. Mech. Engg.)

Mechatronics Engg. Department 4th Semester

**MICROPROCESSOR AND MICROCONTROLLER Lesson plan for the Session Jan-
June 2026**

Lecturer No.	Topic Name
	Unit 1 02 Hrs 2 Marks
1	Typical organization of a microcomputer system and functions of its various blocks Microprocessor
2	Microprocessor, its evolution, function and impact on modern society
	Unit 2 10 Hrs 12 Marks
3	Architecture of a Microprocessor (8085 microprocessor)
4	Explanation of Architecture
5	Concept of Bus , bus organization of 8085
6	Functional block diagram of 8085
7	function of each block
8	Pin details of 8085
9	Explanation of each pin
10	Demultiplexing of address/data bus
11	generation of read/write control signals
12	Steps to execute a stored programme
	Unit 3 10 Hrs 10 Marks
13	Comparison between microprocessor and microcontroller
14	Microcontroller overview
15	Architecture of 8051 microcontroller
16	Explanation of each block of 8051
17	Pin detail of 8051
18	Explanation of each pin of 8051
19	I/O Port structure
20	Memory Organization of 8051
21	Special Function Registers of 8051
22	External Memory
	Unit 4 14 Hrs 14 Marks
23	Instruction Format
24	Instruction Types
25	Instruction set of 8051
26	Data transfer instructions
27	Arithmetic instructions
28	Logical instructions
29	Bit manipulation instructions
30	Machine control group of instructions
31	Stack and Memory instructions
32	Addressing Modes of 8051
33	Explanation of addressing modes with example
34	Assembler Directives
35	Assembler Operation
36	Compiler, Debugger and simulator
	Unit 5 12 hrs 8 Marks
37	Timers of 8051
38	Timer 0 operation
39	Timer 1 operation
40	Timer Mode 0 Programming
41	Timer Mode 1 Programming
42	Timer Mode 2 Programming
43	Serial port operation
44	Transmit serial port programming
45	Receive serial port programming
46	Interrupts of 8051
47	Interrupt structure
48	Interrupt programming
	Unit 6 12 Hrs 10 marks
49	Key pad Interface with 8051

50	Program of keypad interface
51	7-segment Display interface with 8051
52	Program of interface
53	LCD interface with 8051
54	Program of Interface
55	Stepper Motor interface with 8051
56	A/D interface with 8051
57	D/A interface with 8051
58	RTC interface with 8051
	Unit 7 4 Hrs 4 Marks
59	ARDUINO overview
60	ARDUINO block Diagram
61	ARDUINO Pin Detail
62	ARDUINO Features


Signature Of Teacher.

Industrial Electronics Lesson plan For the session Jan-Jun 2026

Lecture No.	Topic Name
	Unit 1 : Introduction to thyristor family (18 Hrs.) 15 Marks
1	Overview of SCR
2	Overview of DIAC
3	Overview of TRIAC
4	Different methods of SCR Triggering
5	Different methods of SCR Triggering
6	Different commutation circuits for SCR
7	Series and parallel operation of SCR
8	Series and parallel operation of SCR
9	Series and parallel operation of SCR
10	Construction and working principle of UJT
11	Construction and working principle of UJT
12	V-I Characterstics of UJT
13	V-I Characterstics of UJT
14	UJT as relaxation oscillator
15	UJT as relaxation oscillator
16	UJT as relaxation oscillator
17	Introduction of Gate Turnoff thyristor (GTO)
18	Introduction of Gate Turnoff thyristor (GTO)
	Unit 2 : Controlled Rectifiers (12 Hrs.) 12 Marks
19	Single phase half wave-controlled rectifier with R & R-L Load
20	Single phase half wave-controlled rectifier with R & R-L Load
21	Single phase fully controlled full wave bridge rectifier R & R-L Load
22	Single phase fully controlled full wave bridge rectifier R & R-L Load
23	Single phase fully controlled full wave center tap rectifier R& R-L Load
24	Single phase fully controlled full wave center tap rectifier R& R-L Load
25	Single phase fully controlled full wave center tap rectifier R& R-L Load
26	Single phase fully controlled full wave center tap rectifier R& R-L Load

27	Single phase half controlled full wave rectifier with R & R-L Load
28	Single phase half controlled full wave rectifier with R & R-L Load
29	Single phase half controlled full wave rectifier with R & R-L Load
30	Single phase half controlled full wave rectifier with R & R-L Load
	UNIT: 3 Inverters, Choppers, Dual Converters and Cyclo converters(18 hrs) (15 Marks)
31	Principle of operation of basic inverter circuits, concepts of duty cycle, series & parallel inverters & their applications
32	Principle of operation of basic inverter circuits, concepts of duty cycle, series & parallel inverters & their applications
33	Principle of operation of basic inverter circuits, concepts of duty cycle, series & parallel inverters & their applications
34	Principle of operation of basic inverter circuits, concepts of duty cycle, series & parallel inverters & their applications
35	Choppers: Introduction, types of choppers (Class A, Class B, Class C and Class D). Step up and Step-down choppers
36	Choppers: Introduction, types of choppers (Class A, Class B, Class C and Class D). Step up and Step-down choppers
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40	Dual Converters and cyclo-converters: Introduction
41	Dual Converters and cyclo-converters: Introduction
42	Dual Converters and cyclo-converters: Introduction
43	types & basic working principle of dual converters and cyclo converters & their applications
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45	types & basic working principle of dual converters and cyclo converters & their applications
46	types & basic working principle of dual converters and cyclo converters & their applications

47	types & basic working principle of dual converters and cyclo converters & their applications
48	Revision
	UNIT: 4 Thyristorised Control of Electric drives (08 hrs.) 08 Marks
49	DC drive control mechanism (Basic working principle)
50	DC drive control mechanism (Basic working principle)
51	i) Half wave drives. (Speed control of DC motor using choppers).
52	i) Half wave drives. (Speed control of DC motor using choppers).
53	ii) Full wave drives (Speed control of DC motor using choppers).
54	ii) Full wave drives (Speed control of DC motor using choppers).
55	iii) Chopper drives (Speed control of DC motor using choppers).
56	iii) Chopper drives (Speed control of DC motor using choppers).
	UNIT: 5 Application of Power Electronic Devices (08 hrs.) 10 Marks
57	UPS system, its block diagram and operation
58	UPS system, its block diagram and operation
59	Types of UPS systems: on-line, offline, line-interactive & their applications
60	Types of UPS systems: on-line, offline, line-interactive & their applications
61	Light intensity control of lamp using TRIAC • Speed control of universal motors
62	Light intensity control of lamp using TRIAC • Speed control of universal motors
63	Automatic battery charger circuit.
64	Automatic battery charger circuit.



Subject Teacher

Machatronics 4th Semester

Electronic Instruments and Measurement Lesson plan For the

Session Jan-Jun 2026

Lecture No.	Topic Name
	Unit 1 : Basic of Measurements (10 Hrs.) 12 Marks
1	Measurement, method of measurement
2	Types of instruments and specifications
3	Accuracy, precision, sensitivity, resolution, range
4	Errors in measurements
5	Sources of errors
6	Limiting Errors
7	Loading Effect
8	Importance and application of standards
9	Importance and application of standards
10	Calibration
	Unit 2: Transducers (10 hrs) 12 Marks
11	Distinction between active and passive transducers with examples
12	Basic requirements of Transducers
13	Variable Resistance Type Transducers (Strain gauge, Thermistor, Hygrometer)
14	Variable capacitance type (pressure gauge, dielectric gauge)
15	Variable inductance type (LVDT, Bourdon pressure gauge)
16	Solid state sensor
17	Thermocouple, piezoelectric device,
18	Photoelectric device
19	Photoelectric device
20	Proximity probe
	Unit 3 : Electrical Measuring Instruments (09 hrs) 12 Marks
21	Megger
22	Megger
23	Earth Tester
24	Power Factor Meter
25	Power Factor Meter
26	Frequency Meter
27	Frequency Meter
28	Frequency Meter
29	Tong Tester

Unit 4 : Instrument Transformer (09 hrs) 12 Marks	
30	Current Transformer And its need in measurement
31	Current Transformer And its need in measurement
32	Current Transformer And its need in measurement
33	Current Transformer And its need in measurement
34	Potential Transformer and its need in measurements
35	Potential Transformer and its need in measurements
36	Potential Transformer and its need in measurements
37	Potential Transformer and its need in measurements
38	Potential Transformer and its need in measurements
Unit 5: Electronic Instruments (10 hrs) 12 Marks	
39	Digital Multimeter
40	Digital Multimeter
41	Digital Multimeter
42	Cathode Ray Oscilloscope (CRO)
43	Cathode Ray Oscilloscope (CRO)
44	Cathode Ray Oscilloscope (CRO)
45	Digital Storage Device (DSO)
46	Digital Storage Device (DSO)
47	Function Generator
48	Function Generator



Subject Teacher

HOD/OIC

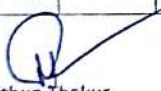
GOVT. MILLENNIUM POLYTECHNIC CHAMBA

LESSON PLAN : HYBRID VEHICLES

(SESSION: JAN-JUNE. 2026)

MECHATRONICS ENGINEERING (SEMESTER - 4th)

S NO.	MONTH	WEEK	DATE	CONTENT (THEORY)	REMARKS
1	JAN	5th	28,29,30	UNIT-I Electric Vehicles: Introduction; History of Hybrid and Electric Vehicles; Social and Environmental importance of Hybrid and Electric Vehicles; Components, Vehicle mechanics:	
2	FEB	1st	4,5,6	Roadway fundamentals, Vehicle kinetics, Dynamics of vehicle motion; Propulsion System Design.	
		2nd	11,12,13	UNIT-II Battery: Basics; Types; Parameters: Capacity, Discharge rate, State of charge, State of Discharge, Depth of Discharge;	
		3rd	18,19,20	Technical characteristics, Battery pack Design, Properties of Batteries.	
		4th	25,26,27		
3	MAR	1st	5,6	UNIT-III	
		2nd	11,12,13	DC & AC Electrical Machines: Motor and Engine rating; Requirements; DC machines; Three phase A/c machines; Induction machines; Permanent magnet machines; Switched reluctance machines	
		3rd	18,19,20		
		4th	25,27		
		5th			
4	APRIL	1st	1,2	UNIT-IV	
		2nd	8,9,10	Electric Vehicle Drive Train: Transmission configuration; Components: Gears, Differential, Clutch, Brakes; Regenerative braking, Motor sizing; Fuel efficiency analysis.	
		3rd	16,17		
		4th	22,23,24		
		5th	29,30		
5	MAY	1st	6,7,8	UNIT-V	
		2nd	13,14,15	Hybrid Electric Vehicles: Types: Parallel, Series, Parallel and Series configurations; Drive train; Sizing of components; Basics of Micro, Mild, Mini, Plug-in and Fully hybrid.	
		3rd	20,21,22		
		4th			


Mithun Thakur
(Lect. Mech. Engg.)

Department.: *Mechanics Engineering*
Subject: Essence of Indian Knowledge & Tradition

Course Learning Objectives	The objective of this course is to expose the students with the concepts of Indian traditional knowledge and to make them appreciate the importance of the roots of indigenous knowledge system.
Course Outcomes	After completing this course the students will be able to: CO-1. Identify the concept of Indian Knowledge System (IKS). CO-2. Understand the need and importance of protecting traditional knowledge. CO-3. Compare the Indian traditional knowledge and modern science. CO-4. Understand the use of Yoga in stress management, mental health, mindfulness, healthy eating, weight loss and quality sleep. CO-5. Aware of the general knowledge of Himachal Pradesh.
Lect.No	Topic Number
	Unit 1 Indian Knowledge System (IKS):------15 Marks
1	<input type="checkbox"/> Introduction and Function of Indian Knowledge System(IKS). <input type="checkbox"/> The Basic Structure of Indian Knowledge System(IKS) (only Introduction)
2	1. The 4 Vedas, Namly ऋग्वेद (Rigveda) , यजुर्वेद (Yajurveda), सामवेद (Samaveda) , अथर्ववेद (Atharvaveda) .
3	2. The 4 UpVedas, Namely आयुर्वेद (Ayurveda (health-care)), धनुर्वेद (Dhanurveda (archery)), गंधर्ववेद (Gandharva-veda (dance, music etc.)) and स्थापत्यवेद (Sthapatyaveda (architecture)).
4	3. The 6 Vedagangs ,namely Shiksha (शिक्षा), Kalpa (कल्प), Vykarana (व्याकरण), Chhandas (छंदस), Nirukta (निरुक्त), and Jyotisha (ज्योतिष).
5	4. Itihasa (इतिहास)(Ramayana रामायण and Mahabharata महाभारत) and Purana पुराण (Vishnupurana विष्णुपुराण, Bhagavata Purana (भागवतपुराण) etc.)
6	5. Dharmashastra धर्मशास्त्र. (Manusmriti मनुस्मृति, Yajnavalkya-smriti याज्ञवल्क्यस्मृति, etc.).
7	6. Darshan दर्शन (आचार्यशास्त्र).
8	7. Nyaya शास्त्र (Logic तर्कशास्त्र and Epistemology ज्ञानमीमांसा).
	Unit 2 : Modern Science -----12 Marks
9	● Modern science: Introduction, Characteristics, importance and Example-----contd.
10	● Modern science: Introduction, Characteristics, importance and Example
11	● Difference between modern Science and Indian knowledge system
12	● Difference between modern Science and Indian knowledge system
13	● Role of IKS in modern science
14	● Role of IKS in modern science
	Unit 3 : Traditional knowledge----- 9 Marks
15	● Traditional knowledge: Definition, nature, characteristics, scope and importance
16	● Indigenous Knowledge (IK): characteristics
17	● Traditional knowledge vis-a-vis Indigenous knowledge
18	● Traditional knowledge Vs western knowledge
19	● The need for protecting traditional knowledge
	Unit 4 : Yoga and Holistic Health Care-----15Marks
20	● Yoga: Meaning and Importance of Yoga
21	● Yoga and physical health, Yoga and psychological health, Yoga and intellectual health, Yoga and spiritual health, Yoga and social approach
22	● Introduction to Ashtanga Yoga, Yogic Kriyas (Shat Karma)

23	• Pranayama and its types; Active lifestyle and stress management through Yoga
24	• Physical Fitness, Health and wellness: Meaning and Importance of Wellness,
25	• Components of Wellness, Health and physical Fitness;
26	• Traditional sports & Regional Games for promoting wellness:
27	• Leadership through Physical Activity and Sports; Introduction to First Aid.
	Unit 5 : Himachal Pradesh: A Basic Information----- 9 Marks
28	• History, Culture, Heritage/ Tradition, Customs & Manners
29	• Regional Knowledge, Geographical Features, Constitutional History-----contd.
30	• Regional Knowledge, Geographical Features, Constitutional History
31	• Tourism Place & Scope
32	• Festivals and Fairs

Signature of Teacher

Signature of HOD/OIC

GOVT. MILLENNIUM POLYTECHNIC CHAMBA

LESSON PLAN : HYDRAULICS AND PNEUMATIC SYSTEMS				(SESSION: JAN-JUNE. 2026)	
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Mithun Thakur
 (Lect. Mech. Engg.)

Mechatronics Engg. Department 4th Semester

**MICROPROCESSOR AND MICROCONTROLLER Lesson plan for the Session Jan-
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Signature Of Teacher.

Industrial Electronics Lesson plan For the session Jan-Jun 2026

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Subject Teacher

Machatronics 4th Semester

Electronic Instruments and Measurement Lesson plan For the

Session Jan-Jun 2026

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13	Variable Resistance Type Transducers (Strain gauge, Thermistor, Hygrometer)
14	Variable capacitance type (pressure gauge, dielectric gauge)
15	Variable inductance type (LVDT, Bourdon pressure gauge)
16	Solid state sensor
17	Thermocouple, piezoelectric device,
18	Photoelectric device
19	Photoelectric device
20	Proximity probe
	Unit 3 : Electrical Measuring Instruments (09 hrs) 12 Marks
21	Megger
22	Megger
23	Earth Tester
24	Power Factor Meter
25	Power Factor Meter
26	Frequency Meter
27	Frequency Meter
28	Frequency Meter
29	Tong Tester

Unit 4 : Instrument Transformer (09 hrs) 12 Marks	
30	Current Transformer And its need in measurement
31	Current Transformer And its need in measurement
32	Current Transformer And its need in measurement
33	Current Transformer And its need in measurement
34	Potential Transformer and its need in measurements
35	Potential Transformer and its need in measurements
36	Potential Transformer and its need in measurements
37	Potential Transformer and its need in measurements
38	Potential Transformer and its need in measurements
Unit 5: Electronic Instruments (10 hrs) 12 Marks	
39	Digital Multimeter
40	Digital Multimeter
41	Digital Multimeter
42	Cathode Ray Oscilloscope (CRO)
43	Cathode Ray Oscilloscope (CRO)
44	Cathode Ray Oscilloscope (CRO)
45	Digital Storage Device (DSO)
46	Digital Storage Device (DSO)
47	Function Generator
48	Function Generator



Subject Teacher

HOD/OIC

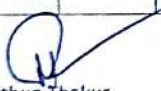
GOVT. MILLENNIUM POLYTECHNIC CHAMBA

LESSON PLAN : HYBRID VEHICLES

(SESSION: JAN-JUNE. 2026)

MECHATRONICS ENGINEERING (SEMESTER - 4th)

S NO.	MONTH	WEEK	DATE	CONTENT (THEORY)	REMARKS
1	JAN	5th	28,29,30	UNIT-I Electric Vehicles: Introduction; History of Hybrid and Electric Vehicles; Social and Environmental importance of Hybrid and Electric Vehicles; Components, Vehicle mechanics:	
2	FEB	1st	4,5,6	Roadway fundamentals, Vehicle kinetics, Dynamics of vehicle motion; Propulsion System Design.	
		2nd	11,12,13	UNIT-II Battery: Basics; Types; Parameters: Capacity, Discharge rate, State of charge, State of Discharge, Depth of Discharge;	
		3rd	18,19,20	Technical characteristics, Battery pack Design, Properties of Batteries.	
		4th	25,26,27		
3	MAR	1st	5,6	UNIT-III	
		2nd	11,12,13	DC & AC Electrical Machines: Motor and Engine rating; Requirements; DC machines; Three phase A/c machines; Induction machines; Permanent magnet machines; Switched reluctance machines	
		3rd	18,19,20		
		4th	25,27		
		5th			
4	APRIL	1st	1,2	UNIT-IV	
		2nd	8,9,10	Electric Vehicle Drive Train: Transmission configuration; Components: Gears, Differential, Clutch, Brakes; Regenerative braking, Motor sizing; Fuel efficiency analysis.	
		3rd	16,17		
		4th	22,23,24		
		5th	29,30		
5	MAY	1st	6,7,8	UNIT-V	
		2nd	13,14,15	Hybrid Electric Vehicles: Types: Parallel, Series, Parallel and Series configurations; Drive train; Sizing of components; Basics of Micro, Mild, Mini, Plug-in and Fully hybrid.	
		3rd	20,21,22		
		4th			


Mithun Thakur
(Lect. Mech. Engg.)

Department.: *Mechanics Engineering*
Subject: Essence of Indian Knowledge & Tradition

Course Learning Objectives	The objective of this course is to expose the students with the concepts of Indian traditional knowledge and to make them appreciate the importance of the roots of indigenous knowledge system.
Course Outcomes	After completing this course the students will be able to: CO-1. Identify the concept of Indian Knowledge System (IKS). CO-2. Understand the need and importance of protecting traditional knowledge. CO-3. Compare the Indian traditional knowledge and modern science. CO-4. Understand the use of Yoga in stress management, mental health, mindfulness, healthy eating, weight loss and quality sleep. CO-5. Aware of the general knowledge of Himachal Pradesh.
Lect.No	Topic Number
	Unit 1 Indian Knowledge System (IKS):------15 Marks
1	<input type="checkbox"/> Introduction and Function of Indian Knowledge System(IKS). <input type="checkbox"/> The Basic Structure of Indian Knowledge System(IKS) (only Introduction)
2	1. The 4 Vedas, Namly ऋग्वेद (Rigveda) , यजुर्वेद (Yajurveda), सामवेद (Samaveda) , अथर्ववेद (Atharvaveda) .
3	2. The 4 UpVedas, Namely आयुर्वेद (Ayurveda (health-care)), धनुर्वेद (Dhanurveda (archery)), गंधर्ववेद (Gandharva-veda (dance, music etc.)) and शिल्पवेद (Sthapatyaveda (architecture)).
4	3. The 6 Vedagangs ,namely Shiksha (शिक्षा), Kalpa (कल्प), Vyakarana (व्याकरण), Chhandas (छंदस), Nirukta (निरुक्त), and Jyotisha (ज्योतिष).
5	4. Itihasa (इतिहास)(Ramayana रामायण and Mahabharata महाभारत) and Purana पुराण (Vishnupurana विष्णुपुराण, Bhagavata Purana (भागवतपुराण) etc.)
6	5. Dharmashastra धर्मशास्त्र. (Manusmriti मनुस्मृति, Yajnavalkya-smriti याज्ञवल्क्यस्मृति, etc.).
7	6. Darshan दर्शन (आचार्यशास्त्र).
8	7. Nyaya शास्त्र (Logic तर्कशास्त्र and Epistemology ज्ञानमीमांसा).
	Unit 2 : Modern Science -----12 Marks
9	● Modern science: Introduction, Characteristics, importance and Example-----contd.
10	● Modern science: Introduction, Characteristics, importance and Example
11	● Difference between modern Science and Indian knowledge system
12	● Difference between modern Science and Indian knowledge system
13	● Role of IKS in modern science
14	● Role of IKS in modern science
	Unit 3 : Traditional knowledge----- 9 Marks
15	● Traditional knowledge: Definition, nature, characteristics, scope and importance
16	● Indigenous Knowledge (IK): characteristics
17	● Traditional knowledge vis-a-vis Indigenous knowledge
18	● Traditional knowledge Vs western knowledge
19	● The need for protecting traditional knowledge
	Unit 4 : Yoga and Holistic Health Care-----15Marks
20	● Yoga: Meaning and Importance of Yoga
21	● Yoga and physical health, Yoga and psychological health, Yoga and intellectual health, Yoga and spiritual health, Yoga and social approach
22	● Introduction to Ashtanga Yoga, Yogic Kriyas (Shat Karma)

23	• Pranayama and its types; Active lifestyle and stress management through Yoga
24	• Physical Fitness, Health and wellness: Meaning and Importance of Wellness,
25	• Components of Wellness, Health and physical Fitness;
26	• Traditional sports & Regional Games for promoting wellness:
27	• Leadership through Physical Activity and Sports; Introduction to First Aid.
	Unit 5 : Himachal Pradesh: A Basic Information----- 9 Marks
28	• History, Culture, Heritage/ Tradition, Customs & Manners
29	• Regional Knowledge, Geographical Features, Constitutional History-----contd.
30	• Regional Knowledge, Geographical Features, Constitutional History
31	• Tourism Place & Scope
32	• Festivals and Fairs

Signature of Teacher

Signature of HOD/OIC