

**SYLLABI OF
B.TECH COMPUTER SCIENCE & ENGINEERING**

**HIMACHAL PRADESH UNIVERSITY
SUMMER HILL
SHIMLA-5**

GROUP – A

Scheme of Examination (Common to all branches)										
First Semester						Exam Schedule		Practical Schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess.	Pract.	Sess.	Total
AS – 1001	Applied Maths – I	3	1	-	4	100	50	-	-	150
AS – 1002	Applied Physics – I	3	1	-	4	100	50	-	-	150
ME – 1001	Engg. Graphics Drawing	0	0	6	6	100	50	-	-	150
HU – 1003	Comm. & Prof. skills in English	3	1	0	4	100	50	-	-	150
EC – 1001	Basic Electronics	3	1	-	4	100	50	-	-	150
CS – 1001	Introduction to Computers & Programming in C	3	1	-	4	100	50	-	-	150
(Practicals/Drawing/Design)										
AS – 1003	Applied Physics Lab	-	-	2	2	-	-	50	50	100
EC – 1002	Basic Electronics Lab	-	-	2	2	-	-	50	50	100
ME – 1002/ IT – 1001	Workshop Practice I/Information Technology Trainer Workshop I	-	-	3	3	-	-	50	50	100
CS – 1002	Computer Programming Lab	-	-	2	2	-	-	50	50	100
TOTAL		15	5	15	35	600	300	200	200	1300

- Note :-**
1. In campus 4 week vocational training for all branches will be held after the second semester and credit for the same will be given in the IIIrd Semester. In place of this UIIT will go for this 4 week vocational training during winter vacation at the end of 1st Semester. However, Credits for the same will be given in the IIIrd Semester.
 2. Vocational Training consists of extended workshop training in shops of Carpentry, fitting, foundry, Welding and Electrical Workshop.
 3. Course Nos. AS-1001 and AS-1002 will be common for Groups A and B in First Semester.

GROUP – B

Scheme of Examination (Common to all branches)										
First Semester						Exam Schedule		Practical Schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess.	Pract.	Sess.	Total
AS – 1001	Applied Maths – I	3	1	-	4	100	50	-	-	150
AS – 1002	Applied Physics – I	3	1	-	4	100	50	-	-	150
AS – 1004/ IT – 1002	Chemistry/Foundation of Information Technology	3	1	-	4	100	50	-	-	150
HU – 1002	Science, Technology & Society	3	1	-	4	100	50	-	-	150
EE – 1001	Basic Electrical Engineering	3	1	-	4	100	50	-	-	150
ME – 1003	Basic Mechanical Engineering	4	1	-	5	100	50	-	-	150
(Practicals/Drawing/Design)										
AS – 1005/ IT – 1003	Applied Chemistry Lab / MATLAB Lab	-	-	2	2	-	-	50	50	100
EE – 1002	Basic Electrical Engineering Lab	-	-	2	2	-	-	50	50	100
ME – 1004 IT – 1004	Workshop Practice II / Information Technology Trainer Workshop II	1	-	3	4	-	-	50	50	100
ME – 1005	Basic Mechanical Engineering Lab	-	-	2	2	-	-	50	50	100
TOTAL		20	6	9	35	600	300	200	200	1300

Note :-

1. University Institute of Information Technology (UIIT) will offer Information Technology Trainer Workshop I/II (IT – 101) / (IT – 104) in place of Workshop I/II (ME – 102) / (ME – 104).
2. Course Nos. AS-1006 and AS-1007 will be common for Groups A and B in Second Semester.

GROUP – A

Scheme of Examination (Common to all branches)										
Second Semester						Exam Schedule		Practical Schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess.	Pract.	Sess.	Total
AS – 1006	Applied Maths – II	3	1	-	4	100	50	-	-	150
AS – 1007	Applied Physics – II	3	1	-	4	100	50	-	-	150
AS – 1004/ IT – 1002	Chemistry/Foundation of Information Technology	3	1	-	4	100	50	-	-	150
HU – 1002	Science, Technology & Society	3	1	-	4	100	50	-	-	150
EE – 1001	Basic Electrical Engineering	3	1	-	4	100	50	-	-	150
ME – 1003	Basic Mechanical Engineering	4	1	-	5	100	50	-	-	150
(Practicals/Drawing/Design)										
AS – 1005/ IT – 1003	Applied Chemistry Lab/MATLAB Lab	-	-	2	2	-	-	50	50	100
EE – 1002	Basic Electrical Engineering Lab	-	-	2	2	-	-	50	50	100
ME – 1004/ IT – 1004	Workshop Practice II / Information Technology Trainer Workshop II	1	-	3	4	-	-	50	50	100
ME – 1005	Basic Mechanical Engineering Lab	-	-	2	2	-	-	50	50	100
TOTAL		20	6	9	35	600	300	200	200	1300

Note :-

1. University Institute of Information Technology (UIIT) will offer Information Technology Trainer Workshop I/II (IT – 1001) / (IT – 1004) in place of Workshop I/II (ME – 1002) / (ME – 1004).
2. Vocational Training consists of extended workshop training in shops of Carpentry, fitting, foundry, Welding and Electrical Workshop.
3. Course Nos. AS-1001 and AS-1002 will be common for Groups A and B in First Semester.

GROUP – B

Scheme of Examination (Common to all branches)										
Second Semester						Exam Schedule		Practical Schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess.	Pract.	Sess.	Total
AS – 1006	Applied Maths – II	3	1	-	4	100	50	-	-	150
AS – 1007	Applied Physics – II	3	1	-	4	100	50	-	-	150
ME – 1001	Engg. Graphics Drawing	0	0	6	6	100	50	-	-	150
HU – 1003	Comm. & Prof. skills in English	3	1	0	4	100	50	-	-	150
EC – 1001	Basic Electronics	3	1	-	4	100	50	-	-	150
CS – 1001	Introduction to Computers & Programming in C	3	1	-	4	100	50	-	-	150
(Practicals/Drawing/Design)										
AS – 1003	Applied Physics Lab	-	-	2	2	-	-	50	50	100
EC – 1002	Basic Electronics Lab	-	-	2	2	-	-	50	50	100
ME – 1002/ IT – 1001	Workshop Practice I / Information Technology Trainer Workshop I	-	-	3	3	-	-	50	50	100
CS – 1002	Computer Programming Lab	-	-	2	2	-	-	50	50	100
TOTAL		15	5	15	35	600	300	200	200	1300

Note :-

1. In campus 4 week vocational training for all branches will be held after the second semester and credit for the same will be given in the IIIrd Semester. In place of this UIIT will go for this 4 week vocational training during winter vacation at the end of 1st Semester. However, Credits for the same will be given in the IIIrd Semester.
2. Course Nos. AS-1006 and AS-1007 will be common for Groups A and B in Second Semester.

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3 rd Semester						Exam Schedule		Practical schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess	Pract	Sess	Total
AS(ID) – 3001	Numerical Analysis & CP	3	1	-	4	100	50	-	-	150
AS(ID) – 3002	Principles of Engg. Economics & Management	3	1	-	4	100	50	-	-	150
EC (ID)–3001	Digital Electronics	3	1	-	4	100	50	-	-	150
IT (ID)– 3001	Computer Organisation	3	1	-	4	100	50	-	-	150
IT (ID)– 3002	Object Oriented Methods & Programming	3	1	-	4	100	50	-	-	150
IT (ID)– 3003	Data Structures & Algorithms	3	1	-	4	100	50	-	-	150
PRACTICALS / DRAWING /DESIGN)										
AS(ID) – 3003	Numerical Analysis & CP Lab	-	-	2	2	-	-	50	50	100
EC(ID) – 3004	Digital Electronics Lab	-	-	2	2	-	-	50	50	100
IT(ID) – 3005	Data Structures Laboratory	-	-	2	2	-	-	50	50	100
IT (ID)– 3006	Object Oriented Methods & Programming Lab	-	-	2	2	-	-	50	50	100
ME(ID) – 3001	Vocational Training	-	-	-	-	-	-	50	50	100
Total		18	6	8	32	600	300	250	250	1400

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4 th Semester						Exam Schedule		Practical schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess	Pract	Sess	Total
EC(ID) – 4002	Electronics Measurements & Measuring Instruments	3	1	-	4	100	50	-	-	150
IT(ID)-4001	Computer Architecture	3	1	-	4	100	50	-	-	150
IT(ID) – 4004	System Analysis & Design	3	1	-	4	100	50	-	-	150
CS (ID)– 4001	System Software	3	1	-	4	100	50	-	-	150
CS-4002	Discrete Structures	3	1	-	4	100	50	-	-	150
CS – 4003	Theory of Automata & Computation	3	1	-	4	100	50	-	-	150
PRACTICALS / DRAWING /DESIGN)										
EC(ID) – 4007	Electronics Measurement & Measuring Instrument Lab	-	-	2	2	-	-	50	50	100
IT (ID) – 4007	SAD Project	-	-	2	2	-	-	50	50	100
CS – 4004	MAT Lab	-	-	2	2	-	-	50	50	100
Total		18	6	6	30	600	300	150	150	1200

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5 th Semester						Exam Schedule		Practical schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess	Pract	Sess	Total
EC (ID) – 5001	Microprocessor Theory & Applications	3	1	-	4	100	50	-	-	150
IT (ID) – 5001	Software Engineering	3	1	-	4	100	50	-	-	150
IT (ID) – 5002	Database Management System	3	1	-	4	100	50	-	-	150
IT (ID) – 5004	Visual Programming	3	1	-	4	100	50	-	-	150
CS – 5001	Principles of Operating System	3	1	-	4	100	50	-	-	150
(PRACTICALS / DRAWING / DESIGN)										
EC(ID)– 5006	Microprocessor Lab	-	-	3	3	-	-	50	50	100
IT (ID) – 5006	Visual Programming Lab	-	-	2	2	-	-	50	50	100
IT (ID) – 5007	RDBMS Laboratory	-	-	2	2	-	-	50	50	100
CS – 5002	PC Lab (Hardware)	-	-	2	2	-	-	50	50	100
CS – 5003	Industrial Training	-	-	-	-	-	-	50	50	100
Total		15	5	9	29	500	250	250	250	1250

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6 th Semester						Exam Schedule		Practical schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess	Pract	Sess	Total
EC (ID) – 6003	Advance Microprocessor and Micro controllers	3	1	-	4	100	50	-	-	150
IT (ID) – 6004	Multi Media Technology	3	1	-	4	100	50	-	-	150
CS – 6001	Digital & Analog Communication	3	1	-	4	100	50	-	-	150
CS – 6002	Computer Graphics	3	1	-	4	100	50	-	-	150
CS – 6003	Compiler Design	3	1	-	4	100	50	-	-	150
CS – 6004	Relational Data Base Management System	3	1	-	4	100	50	-	-	150
PRACTICALS / DRAWING /DESIGN)										
EC (ID) – 6007	Advanced Microprocessor Lab	-	-	2	2	-	-	50	50	100
IT (ID) – 6008	Multi Media Technology Lab	-	-	2	2	-	-	50	50	100
CS – 6005	Computer Graphics Lab	-	-	2	2	-	-	50	50	100
CS – 6006	Compiler Design Lab	-	-	2	2	-	-	50	50	100
CS – 6007	Seminar & G.D.	-	-	2	2	-	-	-	50	50
Total		18	6	10	34	600	300	200	250	1350

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7 th Semester						Exam Schedule		Practical schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess	Pract	Sess	Total
EC (ID) – 7003	Computer Networks & Data Communication	3	1	-	4	100	50	-	-	150
CS – 7001	Artificial Intelligence & Expert System	3	1	-	4	100	50	-	-	150
CS – 7002	Distributed Operating System	3	1	-	4	100	50	-	-	150
CS – 7003	Analysis & Design of Algorithms	3	1	-	4	100	50	-	-	150
CS-7004	Natural Language Processor	3	1	-	4	100	50	-	-	150
XX-XXXX	Department Elective (I)	3	1	-	4	100	50	-	-	150
(PRACTICALS / DRAWING / DESIGN)										
EC(ID) – 7009	Computer Networks & Data Communication Lab	-	-	2	2	-	-	50	50	100
CS – 7005	Expert System Lab	-	-	2	2	-	-	50	50	100
CS – 7006	Minor Project	-	-	4	4	-	-	50	50	100
CS – 7007	Industrial Training	-	-	-	-	-	-	50	50	100
Total		18	6	8	32	600	300	200	200	1300

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8 th Semester						Exam Schedule		Practical schedule		
Course No.	Subjects	L	T	P	Total	Theory	Sess	Pract	Sess	Total
EC (ID) – 8001	Digital Signal Processing	3	1	-	4	100	50	-	-	150
CS – 8001	Web Development	3	1	-	4	100	50	-	-	150
XX-XXXX	Department Elective (II)	3	1	-	4	100	50	-	-	150
XX-XXXX	Open Elective (I)	3	1	-	4	100	50	-	-	150
(PRACTICALS / DRAWING / DESIGN)										
EC(ID) – 8005	DSP Lab	-	-	3	3	-	-	50	50	100
CS – 8004	Major Project	-	-	8	8	-	-	150	150	300
CS – 8005	Comprehensive viva-voce	-	-	-	-	-	-	-	100	100
CS – 8006	Core Java & Web Development Lab	-	-	2	2	-	-	50	50	100
CS-8007	Web Technology Lab	-	-	2	2	-	-	50	50	100
Total		12	4	15	31	400	200	300	400	1300

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Deptt. Elective-I			Open Elective		
1.	Unix/Linux administration	CS-7010	1.	Communication System	EC-8020
2.	Neural network & fuzzy Logic	CS-7011	2.	Reliability of electronics Communication system	EC-8021
3.	Digital system Design	EC(ID)-7005	3.	Non Conventional Electrical Power Generation	EE-8008
4.	Microelectronics Devices & VLSI technology	EC-7010	4.	Energy Assessment and Auditing	EE-8009
			5.	Professional issues in IT	IT-8013
			6.	Computer Aided Fine Arts	IT-8014
Deptt. Elective-II					
1	Digital Image Processing	CS-8008	7.	Entrepreneurship Development & New Enterprise Managements	HU-8020
2	Software maintenance	IT-8016	8.	Accounts & Financial Management	HU-8021
3.	Optical Communication	EC-8013	9	Total Quality Management	HU-8022
4.	Cellular & Satellite Communication	EC(ID)8014	10.	Advanced Operations Research	ME-8019
			11.	Industrial Management	ME-8020
			12.	Optimisation methods for Engineering System	ME-8021