

**SCHEME
OF
EXAMINATION**

Under Choice Based Credit System (CBCS)

For

B.Sc. (Hons.) Physics- 3 Years
(w.e.f. Session 2018-19)



UTTARANCHAL
UNIVERSITY

**UTTARANCHAL UNIVERSITY,
DEHRADUN**

SEMESTER – I									
S.No	Code	Paper Title	L-T-P	Credit	Theory		Practical		Total
					End sem.	Sess.	End sem.	Sess.	
1	TBHP-101	Mathematical Physics -I	5-1-0	6	60	40	-	-	100
2	TBHP/PBHP-102	Mechanics	4-0-4	6	60	40	25	25	150
3	TBHG/PBHG-103	Generic Elective-1	4-0-4	6	60	40	25	25	150
4	TBEC-104/TBES-104	English Communication/ Environmental Science	2-0-0	2	60	40	-	-	100
5	PBMP-105	Minor Project & Presentation-I	0-0-2	1			25	25	50
Total for 1 Sem.			15-1-10	21					550

SEMESTER – II									
S.No	Code	Paper Title	L-T-P	Credit	Theory		Practical		Total
					End sem.	Sess.	End sem.	Sess.	
1	TBHP/PBHP-201	Electricity & Magnetism	4-0-4	6	60	40	25	25	150
2	TBHP/PBHP-202	Waves & Optics	4-0-4	6	60	40	25	25	150
3	TBHG/PBHG-203	Generic Elective-2	4-0-4	6	60	40	25	25	150
4	TBES-204/ TBEC-204	Environmental Science / English Communication	2-0-0	2	60	40	-	-	100
5	TBHE-205	Human Ethics and Professional Values	2-0-0	2	60	40	-	-	100
Total			16-0-12	22					650
Total for 1 & 2 Sem.				43					1200

SEMESTER – III									
S.No	Code	Paper Title	L-T-P	Credit	Theory		Practical		Total
					End sem.	Sess.	End sem.	Sess.	
1	TBHP- 301	Mathematical Physics- II	5-1-0	6	60	40	-	-	100
2	TBHP /PBHP-302	Thermal Physics	4-0-4	6	60	40	25	25	150
3	TBHP /PBHP-303	Digital Systems & Applications	4-0-4	6	60	40	25	25	150
4	TBHG-304	Generic Elective-3	5-1-0	6	60	40	-	-	100
5	TBHP- 305	SEC-1(Select any one from the list)	2-0-0	2	60	40	-	-	100
6	PBMP-306	Minor Project & Presentation-II	0-0-2	1			25	25	50
Total			20-2-10	27					650
Total for 1 , 2 & 3 Semesters				70					1850

SEMESTER – IV									
S.No	Code	Paper Title	L-T-P	Credit	Theory		Practical		Total
					End sem.	Sess.	End sem.	Sess.	
1	TBHP-401	Mathematical Physics- III	5-1-0	6	60	40	-	-	100
2	TBHP /PBHP-402	Elements of Modern Physics	4-0-4	6	60	40	25	25	150
3	TBHP/PBHP-403	Analog Systems & Applications	4-0-4	6	60	40	25	25	150
4	TBHG-404	Generic Elective-4	5-1-0	6	60	40	-	-	100
5	TBHP-405	SEC-2 (<i>Select any one from the list</i>)	2-0-0	2	60	40	-	-	100
6	PBMP-406	Minor Project & Presentation-III	0-0-2	1			25	25	50
Total			20-2-10	27					650
Total for 1, 2, 3 & 4 Semesters				97					2500

SEMESTER – V									
S.No	Code	Paper Title	L-T-P	Credit	Theory		Practical		Total
					End sem.	Sess.	End sem.	Sess.	
1	TBHP- 501	Quantum Mechanics and applications	5-1-0	6	60	40	-	-	100
2	TBHP/PBHP-502	Solid State Physics	4-0-4	6	60	40	25	25	150
3	TBHP/PBHP-503	DSE-1(<i>Select any one from the list</i>)	4-0-4	6	60	40	25	25	150
4	TBHP-504	DSE-2(<i>Select any one from the list</i>)	5-1-0	6	60	40	-	-	100
5	PBSM-505	Seminar Presentation*	0-0-3	2			50	50	100
Total			18-2-11	26					600
Total for 1, 2, 3, 4 & 5 Semesters					123				3100

* Based on SWAYAM / MOOC Courses/ Swachh Bharat Mission/ as per UGC guidelines/ other

SEMESTER – VI									
S.No.	Code	Paper Title	L-T-P	Credit	Theory		Practical		Total
					End sem.	Sess.	End sem.	Sess.	
1	TBHP/PBHP- 601	Electromagnetic Theory	4-0-4	6	60	40	25	25	150
2	TBHP-602	Statistical Mechanics	5-1-0	6	60	40	-	-	100
3	TBHP-603	DSE-3 (<i>Select any one from the list</i>)	5-1-0	6	60	40	-	-	100
4	PBHD-604	DSE-4 (Dissertation)	0-0-12	6			100	50	150
	TBHP/ PBHP-604	DSE-4 (Nano Materials and Applications)	4-0-4		60	40	25	25	
Total			14-2-16/ 18-2-08	24					500
Total for 1, 2, 3, 4, 5 & 6 Semesters				147					3600

Generic Electives: (Exactly two papers from strictly two disciplines) – GE-1 to GE-4:

1. Computer Science (4) +Lab (4)
 2. Mathematics (5) + Tut (1)
 3. Chemistry (4) +Lab (4)
- Any other discipline of importance

Skill Enhancement Courses: (2 papers to be selected) – SEC-1 to SEC-2

SEC-1: [TBHP-305]

1. Electrical circuit network Skills
2. Mechanical Drawing
3. Energy Studies

SEC-2: [TBHP-405]

1. Renewable Energy and Energy harvesting
2. Weather Forecasting
3. Intellectual Property Right

Discipline Specific Electives: (4 papers to be selected) – DSE-1 to DSE-4

DSE-I [TBHP/PBHP-503]

1. Physics of devices and Instrumentation
2. Laser Physics

DSE-II [TBHP-504]

1. Advanced Mathematical Physics
2. Classical Mechanics

DSE-III [TBHP-603]

1. Nuclear and Particle Physics
2. Atmospheric Physics

DSE-IV [PBHD-604 or TBHP/PBHP-604]

1. Dissertation
 2. Nano Materials and Applications
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**Generic Elective Papers (GE) (Minor-Physics) for other Departments/Disciplines:
(Credit: 06 each)**

1. Mechanics (4) + Lab (4)
 2. Mathematical Physics -I (**5+1**)
 3. Waves and Optics (4) + Lab (4)
 4. Electricity and Magnetism (4) + Lab (4)
 5. Mathematical Physics- II (**5+1**)
 6. Thermal Physics (4) + Lab (4)
 7. Analog Systems & Applications (4) + Lab (4)
 8. Solid State Physics (4) + Lab (4)
 9. Elements of Modern Physics (4) + Lab (4)
 10. Statistical Mechanics (**5+1**)
 11. Laser Physics (4) + Lab (4)
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1. Evaluation Scheme for Practical:

Practical Performance & Viva During The Semester (10 Marks)		Attendance (5 Marks)	Viva (10 Marks)	Total Internal (25 Marks)
Experiment (5Marks)	File work (5 Marks)			

External Evaluation (25 marks)

Experiment (10 Marks)	File Work (5 Marks)	Viva (10 Marks)	Total External (25 Marks)
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2. Evaluation Scheme for Dissertation:

Dissertation Performance & Presentation During The Semester (40 Marks)	Attendance (10 Marks)	Total Internal (50 Marks)
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External Evaluation (100 marks)

Thesis Evaluation (25 Marks)	Papers presented/Published in conferences/Journals (25 Marks)	Presentation & Viva (50 Marks)	Total External (100 Marks)
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