

**UNIVERSITY INSTITUTE OF  
TECHNOLOGY  
(UIT)  
H. P. UNIVERSITY, SHIMLA -171005**

(NAAC Accredited “A” Grade University)



**PRA VESH UIT-2022**  
(UG-Programmes)  
**B. Tech./B. Tech. (Honours)**  
in  
CSE, IT, ECE, CE & EE  
**Prospectus**  
-cum-  
**Handbook of Information**



# HIMACHAL PRADESH UNIVERSITY

NAAC Accredited "A" Grade University

GYAN PATH, SUMMER HILL, SHIMLA-171005

**Prof. S. P. Bansal**

*Vice-Chancellor*

## MESSAGE



I am happy to know that Himachal Pradesh University Institute of Technology (UIT) has prepared the prospectus for studies in B.Tech. courses for the academic session 2022-23.

The location of the institute present a panoramic natural view among the woods and it is one of the pioneer institutions in the field of Engineering and Computer Science Technology in north India.

This University has completed 52 years of existence and made many mile stones in the dissemination of Higher Education. This being the oldest affiliating institution in the higher learning has earned name globally. Efforts have been made to make the syllabus and programs to prepare the B.Tech. Degree holders according to the demand of the market in view of the recent challenges and opportunities.

I welcome the students to the Himachal Pradesh University Institute of Technology.

(Prof. S. P. Bansal)



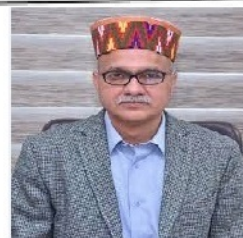
# HIMACHAL PRADESH UNIVERSITY

NAAC Accredited "A" Grade University  
Gyan-Path, Summer-Hill, Shimla-171005

**Prof. Jyoti Prakash**

**Pro-Vice-Chancellor**

## MESSAGE



It gives me an immense pleasure to know that Institute of Technology (UIT) of Himachal Pradesh University has planned the prospectus for admissions in B.Tech. courses through entrance test.

The study of Engineering and Technology has attained a pivotal place in these days. As the utility of computer science and Engineering education has increased manyfold in our day to day working.

I hope that UIT of this University has a very serene environment for studies among the thick lush green forests of deodar with the natural beauty.

The atmosphere for engineering education will pave new heights to the young engineering minds and I wish them all the best in their future endeavors.

I welcome the students to the Himachal Pradesh University Institute of Technology.



(Prof. Jyoti Prakash)

**FROM  
THE DESK OF  
DIRECTOR**



**Prof. P. L. Sharma**

India is slowly and steadily moving towards the number one spot amongst world's super powers. One of the major contributions in this pursuit is its technical man power. The country's technical work force at present is second to none in the world and it would not be unfair to attribute this achievement of India to quality education being provided by various universities and technical institutes across the country.

Every state in India is contributing its share of efforts in providing quality education to the students of this country and Himachal Pradesh is also one of the leading states in the northern region of India. **University Institute of Technology (UIT)**, H. P. University, Shimla, is one such Institute that has been catering to the fulfillment of the demand of quality engineering, for the last twenty years. The Institute is running five streams namely: **B. Tech./B. Tech. (Honours) in Civil Engineering, Electrical Engineering, Electronics & Communication Engineering, Information Technology and Computer Science Engineering (CE, EE, ECE, IT & CSE).**

It gives me immense pleasure in bringing the **"PRAVESH UIT-2022"**, an online application process for admission in these courses for the session 2022-23. The details for the admission have been outlined in the accompanying document.

***"To build a nation, you have to build the people"***

UIT believes in building engineers instead of just producing them. That is why our alumni are well placed in a wide spectrum of leading industrial houses as well as top central and state government agencies.

My dear young minds, I invite you people to become the part of this wonderful journey of building engineers. I assure you that, this institute not only provides the best of the theoretical-technical knowledge and hands-on exposures, but also emphasizes on special efforts for the overall development of the human personality. We truly believe in

***"Use of technology for the overall advancement of humanity with humility"***.

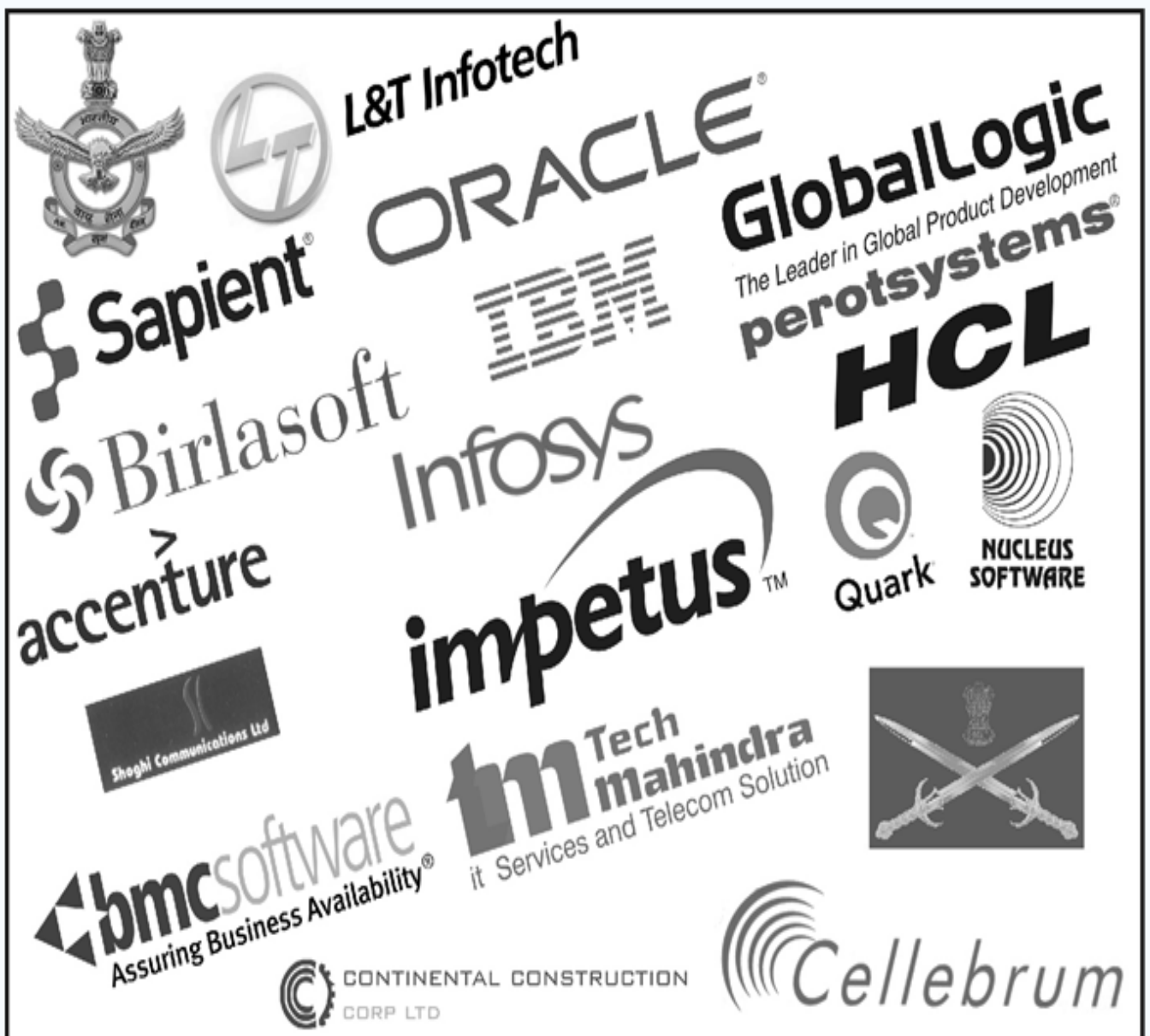
Trust me, my dear aspirants, the great experience at UIT will not only help you in achieving your professional goals but will also provide ample opportunities to excel in various co-curricular activities.

Looking forward to welcome you at the Institute.

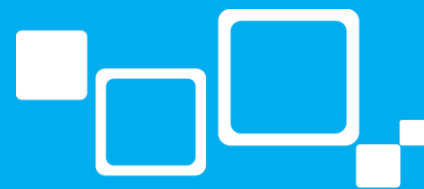
**(Prof. (Dr.) P. L. Sharma)**  
**Director, UIT**

**PROSPECTUS**  
**University Institute of Technology (UIT)**  
**Himachal Pradesh University**  
**CONTENTS**

UIT: An Introduction	06
Academic Facilities	06
Attendance	09
FEE Waivers, Scholarships & Prizes	10
Placement Cell	12
Academic Programmes	12
Admission Criterion : (Fresh Entry to 1 <sup>st</sup> Year)	13
: (Lateral Entry to 2 <sup>nd</sup> year)	13
Students' Intake	14
Fee Structure	16
Common Entrance Test (Fresh Entry)	18
Syllabi of Entrance Test	20
Sample Questions	24
Faculty, Administrative and Supporting Staff	25
Information to be Filled-up the Online Application Form	27
Important Dates	28







## Approved by All India Council for Technical Education

### UIT: AN INTRODUCTION

Himachal Pradesh University, named after the state of Himachal Pradesh, was established on 22<sup>nd</sup> July, 1970. The University is located at Summer Hill, a suburb at the Western end of Shimla at a distance of 5 km. from the town, 5 minute walk from the Summer Hill Railway Station, and about 15 km. from Jubber Hatti Airport.

University Institute of Technology (UIT) Shimla, formerly brand named as UIIT, is a premier institution of excellence in Engineering and Technology that develops professionals and leaders of high caliber imbued with values of entrepreneurship, ethics, and social responsibility. Functioning under the “Executive Council” of the Himachal Pradesh University since September, 2000, UIT admits students from all over the country to the **B. Tech. in Information Technology, Computer Science Engineering, Civil Engineering, Electrical Engineering and Electronics & Communication Engineering** programmes and imparts training to make them competent, motivated Engineers, Leaders, Thinkers, Scientists and successful Entrepreneurs. To maintain the academic standards, the requisite process of approval is sought every academic year from All India Council of Technical Education (AICTE) for all the academic programmes of UIT.

### LOCATION

The University Institute of Technology (UIT) is presently functioning at Silverwood Estate in the main campus of H. P. University. The Institute is functioning in its own independent Wi-Fi campus at the new site.

### ACADEMIC FACILITIES

#### LIBRARY

Over the past 22 years, the Institute has created a dedicated library exclusively for the usage of students and faculty of UIT. It has acquired a good collection of books related to all branches and allied areas. An amount of more than Rs 25.00 lacs, has been spent to purchase latest editions of quality books needed by the students. Presently UIT library has more than five thousand books and a good reading space has also been provided for the students. Library also subscribes to about 20 computer magazines/Journals besides others.

Institute Library has plans to create a special section of e-books, CD-ROMs and other resource material to provide a resource bank of share-wares and other learning material. Students also have an access to the main library of the University. Library is connected with networking facility through Wi-Fi and CAT 6 cables. Now the Library has also availed connectivity with National Knowledge Network (NKN).

#### COMPUTER LABORATORY

To provide a rich hand on experience to the students, state of the art computer and other laboratory facilities have been created with an investment of more than Rs 3.5 crores. Computer Laboratory is fully networked and the facility of networking is extended from computer lab to all classrooms and other labs.

Intranet Infrastructure consists of hardware and software which is sufficient to meet the requirements of Laboratories envisaged in the Detailed Course Curriculum.



### Intranet Infrastructure consists of

- One Powerful DELL BLADE server with 4 Blades Extendable up to 16 Blades, configured as windows Server 2012 (R2) Data Center and dedicated LINUX Server respectively
- 130 - DELL i7- 4770, 3.4 GHz, 4GB 1600 MHz DDR3 RAM Desktops with HD-WLED Digital Monitor.
- 50 - DELL i3 Desktop with LED Monitor.
- 10 - DELL i5 Desktop with LED Monitor.
- 13 - i7 DELL Vostro Laptops with 8GB RAM.
- 54 IBM Pentium IV Desktops.
- HCL Pentium IV Multimedia Desktops with 17" LCD-TFT with Wi-Fi (30).
- P-IV ACER Laptops-10, IBM Intel Think pads-2, IBM Notebook Intel Pentium Centrino Mobile Processors.
- (13) HP Compaq 8510P/Intel Core2 Duo T7700 (2.40 GHz, 800 MHz FSB, 4 MB L2 Cache, Intel 965 PM Chipset).
- One Photostat Machine.
- Four CCTV Cameras with backup of 1 TB.
- LCD Projectors 1700 and 2000 ANSI LUMENS.
- UPS: Three 10 KVA, One 3 KVA, Eight 0.65 KVA.
- Printers: Network Laser Printers, Inkjet Printer, Dot Matrix Printer, HP Laser Jets (10), HP Laser Jet M1005 MFP Printers (09).
- INFLIBNETConnectivity.
- MFDs, Scanners, Overhead Projectors (OHP).
- Network switches - Layer 3 and Layer 2 connected with CAT6 cables.
- Dedicated Wi-Fi Facility in UIT-Linksys Access Points which provide 24x7 wireless facility.

### Software

#### System Softwares (Operating Systems)

WINDOWS 2000 Professional, Vista & 8.1 & 10  
 Microsoft Server 2000  
 HAT LINUX 7.1  
 SCO-UNIX 5.0.6 Enterprise with complete development kit

#### Other Software

VISUAL STUDIO 6.0 SQL Server 2000  
 C++  
 C  
 MatLab  
 MS Office XP  
 Mathematica (latest release)  
 Dreamweaver (Macromedia)  
 Oracle 8i  
 LIPI  
 Adobe PAGEMAKER Adobe  
 PHOTOSHOP

#### Groupware

Microsoft Back Office Server  
 Lotus Domino R5 RED  
 MS Exchange 2000

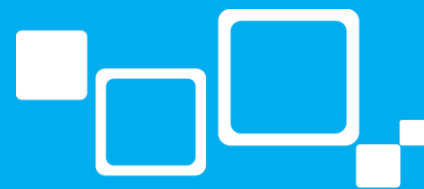
QUARK EXPRESS  
 FLASH 5.0 with PLAYER  
 FREEHAND 9.0  
 FIREWORKS 4.0  
 DIRECTOR 8.0 with SHOCKWAVE  
 GENERATOR 2.0 Developer Edition MAPLE  
 FORTRAN Animator  
 Auto Cad 2002 3 DMAX 4.0  
 NAG Libraries for Fortran  
 Adobe ILLUSTRATOR

**Students are encouraged to bring their own Laptops with Wi-Fi connectivity, which is an essential tool for the students of B. Tech. for undertaking projects, Laboratory exercises, assignments and for internet access.**

### INTERNET CONNECTIVITY

University has been provided Internet connectivity of **1Gbps** through NKN as well as a dedicated





leased line of 2 Mbps (1:1) dedicated bandwidth as part of UGC Infflibnet for higher education. University Institute of Technology is part of the Campus Wide Optical Fiber Network on which Internet facility is available on 24 × 7 basis and campus is fully Wi-Fi.

## WEBSITE

University has dedicated dynamic websites <https://admissions.hpuniv.ac.in> for admissions and <http://www.hpuniv.ac.in/> or a direct web link <https://hpuniv.ac.in/university-detail/home.php?uiit> provides useful information to the students, parents and public. Student records, schedule of curricular activities, time tables, examination schedules etc. are available in updated form. Parents and students are encouraged to use this window of information about UIT.

## LABORATORY FACILITIES

To provide a good basic understanding of the technologies, which goes into the making of technological side of IT & CSE, basic technology, well equipped and applied laboratories have been established. These labs have the latest hardware and software resource to enrich the knowledge of students. The important labs are:

Applied Physics Laboratory	Digital Electronics Laboratory
Basic Electronics Laboratory	Digital Communication Laboratory
Basic Mechanical Engineering Laboratory	Information Technology Trainer Workshop
Basic Electrical Engineering Laboratory	Computer Network Laboratory
Drawing Hall/lab	

The process of establishing independent Labs for Civil, EE & ECE is at the verge of completion.

## LECTURE THEATRES

To provide an inspiring and exciting learning environment, the modern lecture theatres of UIT are equipped with latest communication and multimedia equipment such as LCD projectors, wired connectivity as well as wireless Wi-Fi connectivity.

## FACILITIES ON THE CAMPUS

Campus has a good cafeteria, Health Centre, market, Guest House, recreational facilities and banking facilities with 24 × 7 ATM service. One cafeteria is housed within the premises of UIT too.

## FACULTY

UIT has best faculty resources with rich academic and research credentials. Faculty consists of core faculty, guest faculty, visiting faculty and faculty from industry. Faculty members are encouraged to actively pursue research work, participate in consultation projects, and teach in continuing education programmes. The Guest Lectures from the Faculty and Experts of national repute are also organized subject wise.

## Engineering & Technology Students Association (ETSA)

To develop leadership qualities and team spirit among students, a student Society “**Engineering & Technology Students Association (ETSA)**” has been setup in UIT, which is being run and managed by the students. The IT Society is also responsible for holding technology events, seminars and other extra-curricular activities of interests to students. It also provides a platform to students for interaction with IT Professionals in the industry, R & D and academics.



## ATTENDANCE

Attendance in theory and practical classes is compulsory. The rules of the University as quoted below are strictly adhered to. Any student, who fails to fulfill the minimum requisite attendance condition, is not allowed to sit in the examination. Condonation in attendance will be as per University rules.

### As per Ordinance No. 13.3 (a, b, c)

- a) For every hour per week of subject shown in the schedule of teaching, there shall be at least ten lectures + tutorials/practical/drawing classes during the semester. A student shall be eligible to appear in the examination only if he/she has attended at least 75% Lectures + Tutorials/ practical/ drawing classes during the semester. The attendance record submitted by teacher concerned shall be certified by the Director, University Institute of Technology/ Principal of the Engineering College concerned.
- b) Director of University Institute of Technology/ Principal of the Engineering College as the case may be, shall have the power to condone the shortage of attendance up to 10 per cent only per subject based on the merit of the case.
- c) A candidate who does not fulfill the attendance requirements in any subject will have to repeat the course of instruction in that subject.

Attendance record of the students is updated at the end of each month on the University <http://www.hpuniv.ac.in> or on <https://hpuniv.ac.in/university-detail/home.php?uiit> for their information.

**Absentee fine:** A Student will be charged Rs.5/- per class/lecture for absents from a theory or laboratory class.

## CONDUCT AND DISCIPLINE OF STUDENTS:

- a) A student involved in the violation of any of the rules or regulations of the Institution or the university or in any way involved in any act of indiscipline may be placed on conduct probation by the Head of the Institution. A student placed on conduct probation shall not be allowed to represent the Institution or the University in any meet, tournament, youth festival or cultural completion during the period of his Conduct Probation and shall also remain suspended from any office that he may be holding in any student's organization. If a student, who has been on conduct probation on two previous occasions, commits an act of indiscipline, he shall be dropped from the Institution/University.

1. There shall be **NO RAGGING** in and outside the teaching departments of the University, College or Institutions affiliated to or maintained by the University or the hostels and also on road/ approaches leading to such Institutions/ Hostels.
2. Ragging means and includes any types of Physical or mental torture, done by any individual or group either by words or by conduct, which gives an apprehension in the mind of a person that he cannot pursue his studies free from any mental disturbance/torture created thereby.
3. The Chairman of the Teaching Departments/ heads of the Colleges or Institution affiliated to or maintained by the University, at the commencement of each session when new admission taken place shall have a written undertaking from every students (old or new) to the following effect:

**“I have gone through the rules and regulations regarding ragging and discipline of the University/ College/ Institution and I hereby solemnly affirm that I will not indulge in any act of ragging/ indiscipline and that if I am found guilty of such offences as are**



**covered under these rules. I will have no claim against the order of the rustication / expulsion from the University/ College / Institution.”**

4. If a Candidate is found indulging in ragging directly or indirectly, the competent authority, after enquiry, if satisfied, shall expel the guilty students(s) from the University/ College / Institution.

**Note: Students found to have been involved in the act of RAGGING will be dealt with as per provision of Statue 23-A and recommendations of the Committee constituted by the Hon'ble Supreme Court of India in SLP. No. 24395 of 2006 (Raghvan's Committee Report)**

5. Rustication and Expulsion of Students: Rustication shall mean the loss of one academic year i.e. the student concerned shall not be allowed to appear in any University examination during the academic year in which he is rusticated. The actual period of expulsion from the College or Institution shall depend upon the time of the year when the rustication order is passed. A rusticated student may with permission of the Head of the College or Institution Concerned rejoin the class in the same college or Institution after the time of rustication in the following academic year.
6. A student who is expelled from a College or Institution shall not be allowed to appear in any University examination during the academic year in which he is expelled and the next academic year and shall not thereafter be readmitted to the same or any other college or Institution without the prior sanction of the Vice – Chancellor. Each case of rustication or expulsion shall be reported to the Registrar of the University immediately after the order is passed. A certificate signed by the College or Institution to the effect that the student has been given adequate and reasonable opportunity to explain his position before the order was passed, shall accompany the report.
7. All the students have to wear the uniform on all the working days when present in the campus. A fine of Rs.100/- per day will be imposed on those violating this condition.
8. **General:** In addition to whatever is there in this Document, the students will have to abide by the provisions of the H.P. University Act, Statues, Ordinances, Rules and Regulation as may be framed and amended from time to time.

**Note: In case of any contradiction/inconsistency between the provisions of ordinances and HVI/Proportions, the provision of ordinances/ statutes will prevail.**

## FEE WAIVERS, SCHOLARSHIPS and PRIZES

- A) Fee Waivers:** Full tuition fee waiver is provided by UIT to 06 candidates per branch (03 – Low Income (LI) group i.e. candidates with annual income of parents less than 2.5 lakhs, 02- Meritorious Girls (MG), 01-Physically Challenged) as per AICTE norms. Further all physically challenged candidates are exempted from all kinds of fees whatsoever (except refundable security amount to be paid once only at the time of admission).
- B) Centre and State Government Sponsored Scholarship Schemes:** Eligible students (low income groups belonging to General, SC, ST categories and religious minority candidates, Meritorious Girls, Wards of Armed Forces etc.) are also encouraged and guided by UIT's NSP Nodal officer to apply for scholarships through online portals and all candidates get benefitted with refund up to 100% (or as admissible under scheme concerned) of the fee paid.
- C) Scholarships from UIT:** The students will be granted **four merit scholarships**, one for each year of B. Tech. (IT, CSE, ECE, CE & EE) course in UIT. The amount of the scholarship will be Rs.500/month. The basis of awarding merit scholarship is as given



below:

1. **For 1<sup>st</sup> year:** on the basis of result of 10+2 examination passed by the candidate admitted in the first year. The duration of the scholarship will be one full academic session i.e. 1<sup>st</sup> July to 30<sup>th</sup> June.
2. **For 2<sup>nd</sup> year:** B. Tech. 1<sup>st</sup> year result (semester I and II taken together). It will be for the duration of one full academic session i.e. 1<sup>st</sup> July to 30<sup>th</sup> June.
3. **For 3<sup>rd</sup> year:** B. Tech. 1<sup>st</sup> and 2<sup>nd</sup> year result (semester I, II, III and IV taken together). It will be for duration of one full academic session i.e. 1<sup>st</sup> July to 30<sup>th</sup> June.
4. **For 4<sup>th</sup> year:** B. Tech. 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year (semester I, II, III, IV, V & VI taken together). It will be for the duration of one full academic session i.e. 1<sup>st</sup> July to 30<sup>th</sup> June.

### Prizes:

The Students will be given prizes in each year for standing First, Second and Third in the Semester examinations on the basis of aggregate marks scored in the semester examination. These prizes will be as given below:

1. Three prizes (I, II & III prize) on the basis of B. Tech. semester I result
2. Three prizes (I, II & III prize) on the basis of B. Tech. semester II result
3. Three prizes (I, II & III prize) on the basis of B. Tech. semester III result
4. Three prizes (I, II & III prize) on the basis of B. Tech. semester IV result
5. Three prizes (I, II & III prize) on the basis of B. Tech. semester V result
6. Three prizes (I, II & III prize) on the basis of B. Tech. semester VI result
7. Three prizes (I, II & III prize) on the basis of B. Tech. semester VII result
8. Three prizes (I, II & III prize) on the basis of B. Tech. semester VIII result

First prize will be given in the form of books costing Rs.1,000.00. Second prize in the form of books costing Rs.750.00 and the third prize in the form of books costing Rs.500.00. Students will be given coupons of the respective amounts for choosing books of their choice from the market.

### General rules for the award of UIT Scholarships/Prizes:

- i) All awards shall be made on the basis of Board/University normal annual/semester examinations only. No award shall be given on the basis of result of the supplementary examination or on the basis of the result of a reappear case (excluding re-evaluation which will be counted). Further, provided that there should be no gap in the academic career between qualifying examination and the year in which the admission is sought for.
- ii) The award shall be given to the candidate/candidates who pass the qualifying examination in the first attempt at which he/she or they were due to appear, i.e. the candidate (s) getting a reappear in any of the semester (they are due to appear) of the qualifying examination, will not be considered at all for the award of the Scholarships/Prizes.
- iii) Scholarships/ Prizes, shall be awarded for the period the students are required to pay tuition fee and shall be discontinued if the candidate does not show satisfactory attendance or fails to appear in the examination in which he was due to appear or gets a reappear in any paper or on unsatisfactory conduct. The Scholarships/ Prizes so vacated shall be awarded to the next eligible candidate of the same academic session.
- iv) If a Scholarship/Prize falls vacant, the same may be awarded for the remainder of the term to the next student available in order of merit in the respective session of the class concerned. A Scholarship/ Prize awarded by the Institute shall be awarded only to candidate studying in University Institute of Technology (UIT).



## PLACEMENT CELL

The Institute has a dedicated/effective placement cell. It has been able to place a maximum number of students through its placement cell through on-campus as well as off-campus placements in the companies listed below:

S.No.	Batch	Name of the Company/ Industry
1	2001-2005	Nucleus Software, Perot Systems, HCL Technologies, Cellebrum
2	2002-2006	HCL Technology, Perot Systems, Mahindra British Telecom, Nucleus Software, Infotech, R. Systems, Cellebrum, Smart Data Inc.
3	2003-2007	Perot Systems, HCL Technology, Impetus, Tech Mahindra, Satyam Computer Services, Smart Data Inc., RMS
4	2004-2008	Infosys, Satyam, Tech Mahindra, Mphasis, Impetus, Global Logic, Sierra Atlantic, Syntel (More than 90% students placed)
5	2005-2009	Infosys, L&T, Tech Mahindra, Smart Data
6	2006-2010	Tech Mahindra & Adobe, Smart Data, Infosys
7	2007-2011	Smart Data & Impetus, Global Logic, Tech Mahindra (28), Infosys
8	2008-2012	Smart Data & Impetus, Accenture, Tech. Mahindra, TCS, Cognizant, Persistent Technologies, HP
9	2009-2013	Tech Mahindra, Infosys, Global Logic, Mphasis, HP
10	2010-2014	Infosys, Tech Mahindra (22), Persistent Technologies, L&T, HP, Indian Air force, Indian Navy, Cognizant, Mphasis, TCS
11	2011-2015	Infosys (29 Students), Wipro Technologies (09), i-Gate (12), HP (02), L&T (08), Interactive Brokers (02; with a package of Rs.5 Lacs p.a.)
12	2012-2016	Wipro Technologies (52; with a package of 3.3 Lac p.a.), i-Gate(40; with package of 3.2 Lac p.a.), Think & Learn Bangalore (02; with a package of 6 Lac p.a.), Infosys (01; with package of 3.5 lac p.a.), HP (01; with package of 3.5 Lac p.a.), TCS ((80% students placed till February).
13	2013-2017	Wipro(30), Capgemini (27), Infosys (07), Cicklabs Chandigarh (05), & Indian Air Force (01).
14	2014-2018	Wipro Technology (15), Infosys (15), Capgemini, NIIT, HP, Indian Army.
15	2015-2019	More than 95% : Click Labs (8), LEAPBIKE Technologies (1), Ebizon (1), CAPGEMINI (14), Infosys (27), Wipro (24), TCS (8), Server Business Systems (5), HP E Bangalore and placement drive is in process.
16	2016-2020	Infosys (43), TCS (3), GreyB (3), MotherSon Infotech (1), Abaca System (8)
17	2017-2021	> 70%
18	2018-2022	> 85%

## ACADEMIC PROGRAMMES

### Courses offered

UIT offers courses of Bachelor of Technology in Information Technology (**IT**), Computer Science Engineering (**CSE**), Civil Engineering (**CE**), Electrical Engineering (**EE**) and Electronics and Communication Engineering (**ECE**). Further, UIT also offers the opportunity to the students to impart **B. Tech. (Honours)** degree (conditions apply), in all the five branches.





## Duration

The duration of B. Tech./B.Tech. (Hons.) course in IT, CSE, CE, EE & ECE shall be of 4 years spread over **8 Semesters** on full time basis for fresh entry candidates and shall be of **6 Semesters** for Lateral Entry candidates (admitted directly in 2<sup>nd</sup> year).

**The details of semester wise course outlines and syllabi are available on UIT website.**

## HOSTEL FACILITY

Presently no hostel facility is available to the students of UIT.

### ADMISSION CRITERION - FRESH ENTRY to B. Tech./B. Tech. (Hons.) (IT/CSE/CE/EE/ECE)-1<sup>st</sup> Year

## ELIGIBILITY

- The **eligibility is 10+2** examination or equivalent, passed with Physics, Mathematics and any one of the other elective subjects of a Board/University established by law in India with **50% marks** or equivalent grade. For SC/ST candidate's eligibility will be **45%** marks or equivalent grades.
- In case of candidates studying in University/Board/College or School in a foreign country, the eligibility/qualifying examination will be the same as recognized equivalent to 10+2 by the University or the Association of Indian Universities with **50%** marks in three subjects as detailed above in (a). For SC/ST candidates, eligibility will be **45%** marks or equivalent grades.
- The candidate should not be, more than twenty-two years (22) in age as on 1<sup>st</sup> July of the year of admission.
- The admission of eligible foreign students shall be conducted strictly as per the guidelines of the H.P. University, Shimla. (<http://hpuniv.nic.in/DISW.htm>)

### ADMISSION CRITERION - LATERAL ENTRY to B. Tech./ B. Tech. (Hons.) (IT/CSE/CE/EE/ECE)- 2<sup>nd</sup> Year

For being eligible to seek admission to an Engineering Degree programme at the second year/third semester level through lateral entry scheme, a candidate must fulfill any one of the following conditions:

- Should have acquired a diploma of 3 years in any branch (**IT/CSE/CE/EE/ECE**) (after 10+2 or matriculation) with **45%** (**40%** for reserved category), preferably from Himachal Pradesh State Board of Technical Education or equivalent from institute preferably located in H.P.
- Must have passed the Bachelor Degree in Science (B.Sc.), with Mathematics and Physics as subjects and minimum of **60%** marks in aggregate from Himachal Pradesh University or any other recognized University/Institutions located in preferably Himachal Pradesh.
- A candidate seeking admission under sponsored category under the lateral entry scheme should have same eligibility as given in (a) or (b) above. The candidate should have minimum of 3 year experience of working in Government sector/Public Sector Units /Industry related to Information Technology/Computer Science Engineering/Electronics and Communication Engineering/Civil Engineering/Electrical Engineering, whichever is applicable for seeking admission in branch concerned. The candidates are required to produce the experience certificate from the employer along with (i) requisite leave of 3 years, (ii) salary statement/ at the time counseling. Form 16-A (of salary) for the last three years from the employer.
- The candidates, who have appeared in the final year/semester, but their result of Degree/Diploma course is awaited, can also apply. But, they should get their result cleared and show the pass certificate with requisite percentage on the date of counseling.

Provided further that the seat(s) remain vacant under lateral entry scheme from the bonafide Himachali candidates, then vacant seat(s) will be filled up from the candidates, who have passed the prescribed diploma or B.Sc. from other University/ Board with conditions of (a) or (b)





mentioned above, after exhausting all possibilities of filling these seats from bonafide Himachali candidates.

## STUDENTS' INTAKE

**FRESH ENTRY (1<sup>st</sup> SEMESTER): 60+6<sup>@</sup>+6\*+2\*\*+3\*\*\*+2\$+10# FOR EACH BRANCH**

### BASIS OF ADMISSION

For admission to all seats, a Common Entrance Test will be conducted by the University. **Separate merit lists for HIMACHALI candidates** (passing 10+2 from schools within Himachal Pradesh) **and ALL INDIA candidates** (Open to all Candidates) **will be prepared.**

#### Note:

- <sup>@</sup> 6 Seats are 10% of the sanctioned intake in B. Tech. (IT/ CSE/ECE/CE/EE) over and above reserved for the candidates from Economically Weaker Section (EWS)-General Category of HP.
- \* 6 Seats are 10% of the sanctioned intake approved by the AICTE for the current year in B. Tech. (IT, CSE, ECE, CE, EE) each, over and above, to provide concession/programme fee waiver for – Meritorious Girl, Low Income (LI) group candidates (annual income of parents/family less than Rs.2.5 lakh) & Physically Challenged Meritorious Students in the respective ratio of 2:3:1 as per AICTE norms.
- \*\* Two Seats (over & above) are reserved for Single Girl Child (only child of parents, that too a girl).
- \*\*\* Three Seats (over and above) are reserved for the Wards of HPU Employee.
- \$ 2 Supernumerary Seats (over & above) are reserved for the bonafide domicile residents/migrants of Jammu and Kashmir.
- # 10 Seats (over and above) are allotted for foreign students sponsored by the ICCR (<http://hpuniv.nic.in/DISW.htm>)

**LATERAL ENTRY (3<sup>rd</sup> SEMESTER): 06\*\* + any seat(s) remaining vacant at the end of 1<sup>st</sup> year for each branch**

### BASIS OF ADMISSION

For admission in Lateral Entry Scheme, a joint merit list will be drawn from the eligible candidates as mentioned in eligibility for Lateral entry.

#### Note:

**\*\*6** Seats are 10% of the sanctioned intake of the first year in B. Tech. (IT/CSE/CE/EE/ECE) over and above. Out of the allowed intake of 10% of the sanctioned seat under the lateral entry scheme, 1 seat i.e. 20% of this intake shall be admitted under the category of sponsored candidate.

### RESERVATION OF SEATS

15% and 7.5% of the seats shall be reserved for Scheduled Caste and Scheduled Tribes candidates, respectively. Further 5% of total seats are reserved for Physically Challenged (PC). Physically Challenged candidates will have to produce a certificate of minimum disability of 40% (issued by competent authority) at the time of counseling, to avail the reservation in PC category. Roaster applicable for this will be followed for deciding seats for SC, ST and PC categories separately.

The seats reserved for SC, ST and PC categories i.e. (15% + 7.5% + 5% = 27.5%) shall be filled as under:

- i) 40% of the seats for admission shall be open for all the candidates irrespective of the institution from where they have passed their qualifying examination.



- ii) 60% of the seats shall be filled out of the candidates who have passed their qualifying examination (10+2) from schools located within Himachal Pradesh.

The remaining 72.5% seats (100% - 27.5%) shall be filled as under:

- i) 40% of the seats shall be open for all the candidates irrespective of the institution from where they have passed their qualifying examination.
- ii) 60% of the seats shall be filled out of the candidates who have passed their qualifying examination (10+2) from schools located within Himachal Pradesh.

### 120 POINT RESERVATION ROSTER

The 120 Point Reservation Roster of H.P. University, Shimla for Admission to B. Tech. (IT/CSE/ECE/CE/EE) in UIT.

1 PC	26 SC	51	76	101 PC
2	27 ST	52 SC	77	102
3	28	53 ST	78 SC	103
4	29	54	79	104
5	30	55	80 ST	105
6	31	56	81	106 SC
7 SC	32	57	82 PC	107 ST
8	33 SC	58	83	108
9	34	59 SC	84	109
10	35	60	85 SC	110
11	36	61	86	111
12 SC	37	62 PC	87	112
13 ST	38	63	88	113 SC
14	39 SC	64	89	114
15	40	65 SC	90	115
16	41 ST	66	91 SC	116
17	42 PC	67 ST	92	117
18 SC	43	68	93 ST	118
19	44	69	94	119 SC
20	45	70	95	120 ST
21 PC	46 SC	71	96	
22	47	72 SC	97 SC	
23	48	73	98	
24	49	74	99	
25	50	75	100	

(PC-5%)

(SC-15%)

(ST - 7.5%)

**FEE STRUCTURE \***

(The candidates of Physically Challenged category are exempted from all types of fee except for refundable fee)

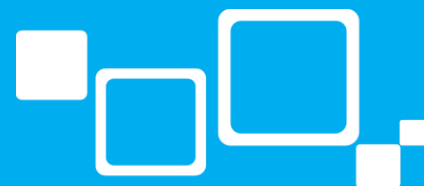
**Academic Session 2022-23**

S. No.	(A) Fee Category	(in Rs.)
1	Tuition Fees (Per Semester)	45,000.00
2	Laboratory Security (Refundable*)(One Time Only)	10,000.00
3	Library Security (Refundable*)(One Time Only)	2,000.00
4	Admission Fee(One Time Only)	1,500.00
	Total	58,500.00

S. No.	(B) Annual Charges	(in Rs.)
1	Continuation fee	1,000.00
2	Sports fee	500.00
3	Medical Fee	100.00
4	Holiday Home Fee	25.00
5	Students Aid fund	10.00
6	Youth Welfare Fund	37.00
7	Identity Card Fee	100.00
8	House/ Sessional Exam fee	1000.00
9	Breakage Fee	600.00
10	Common Room Charges	100.00
11	Development Fee (As approved by AICTE)	4,000.00
12	Insurance for students (As per AICTE requirements)	118.00
13	University Development Fee	500.00
	Total	8,090.00

S. No.	(C) Semester Charges (Per Semester)	(in Rs.)
1	Dilapidation Fee	600.00
2	Amalgamated Fund	1,500.00
3	Population/Education Club Fee	10.00
4	UIT Infrastructure Development Fund	1,000.00
	Total	3,110.00

S. No.	(D) Other Annual Charges (to be retained in the account of UIT)	(in Rs.)
1	Magazine Cum Newsletter Fee	500.00
2	Annual Function Charges	1,500.00
3	Cultural Activity Fund	1,000.00
4	Placement Brochure and CD Fund	500.00
	Total	3,500.00
	<b>Grand Total= (A+B+C+D)</b>	<b>73,200.00</b>



S. No.	University Registration Fee (One Time Only)	(in Rs.)
1	For students passing 10+2 Exam form H.P. Board of School Education Students	As per HPU norms
2	For Others Boards	

#### EXAMINATION FEE

S. No.	Examination Fee (Per Semester)	
1	Examination Fee per Semester (to be paid before the examinations as per University Schedule or as per University decisions notified from time to time) (To be deposited at H. P. University Fee Counter/Online)	As per HPU norms

\* Refundable implies that after the candidate leaves/completes the course, the amount will be refunded back to the student after completing the official formalities.

**Note:-** GST shall be applicable as per the rules of the University.

#### WITHDRAWAL OF ADMISSION BY THE CANDIDATE AND REFUND OF FEE

If a student chooses to withdraw from the program of study in which he/she is enrolled, the institution concerned shall follow the following four-tier system for the refund of fees remitted by student as per letter No.1-3/87-hpuniv(academic) part-III dated:19-09-2017 of Himachal Pradesh University and D.O.No.1-3/2007(cpp-II) dated:06-12-2016 of UGC

S. No.	% of refund of aggregate* fees	Point of time when notice or withdrawal of admission is served to HEI (Higher Education Institution)
1	100%	15 days before the formally-notified last date of admission
2	80%	Not more than 15 days after the formally-notified last date of admission
3	50%	More than 15 days but less than 30 days after formally-notified last date of admission
4	Nil	More than 30days after-formally- notified last date of admission

\* As per the above mentioned directions from UGC, UIT shall deduct Rs. 1000/- as processing charges from the refundable amount.

**Note:** In view of COVID-19 situation, UIT may adopt the revised procedure (if any) to refund the fee amount. Even in that situation, the processing charges of Rs. 1000/- shall be deducted from the refundable amount.

#### FEE PAYMENT SCHEDULE

For all categories of students:

**7<sup>th</sup> to 21<sup>st</sup> of July** of the academic year for odd semesters (i.e. III, V, VII)

**7<sup>th</sup> to 21<sup>st</sup> of December** of the academic year for even semesters (i.e. II, IV, VI, VIII)

#### Important Notes:

1. In case the fee is not deposited till the due date, late fee of Rs.1,000/- for first week & Rs.5,000/- for next fifteen days and failing which the name of the student will be automatically struck off from the rolls of UIT.
2. Fee once deposited shall be refunded, only as per the above provisions.



### COMMON ENTRANCE TEST 2022 (FRESH ENTRY TO 1<sup>st</sup> YEAR)

1. Candidates fulfilling the eligibility criteria will be called for Common Entrance test for B. Tech (IT/CSE/CE/EE/ECE). There shall be only one paper consisting of 100 Multiple Choice Questions (MCQs) of duration 3 Hours. Therefore, the pattern of UIT Entrance Test will be as follows:

Subject	No. of Questions	Marks	Time
(a) Physics	33 MCQ	66	<b>3 Hours</b>
(b) Chemistry	33 MCQ	66	
(c) Mathematics	34 MCQ	68	
<b>Total</b>	<b>100 MCQs</b>	<b>200</b>	

2. Each question will be of 2 marks.
3. There shall be negative marking and 25% of 2 that is  $\frac{1}{4}$  of 2 =  $\frac{1}{2}$  mark will be deducted for each wrong answer.
4. There shall be no score for un-attempted questions.
5. Displayed result shall show the marks scored by candidates in each subject and the total marks.
6. A combined merit list will be prepared for all the five courses (IT/CSE/ECE/CE/EE) on the basis of total marks scored by the candidates.
7. In case of a tie i.e. student obtaining equal marks (aggregate) in the entrance examination, the issue shall be resolved according the higher marks obtained by the candidate in Mathematics part of entrance test followed by marks obtained in Physics part. Even if there is a tie in **inter-se** ranking after exhausting the above procedure, then the candidate younger in age will be given preference.
8. Seat will be allotted on the basis of above merit and the order of course preference opted by the candidate in the counseling form.

**Note:** The syllabus for the entrance test has been provided in this prospectus.

### EXAMINATION CENTRES

There will be six examination centers for the Entrance Test, Four in Himachal Pradesh and Two outside H.P.

Region	Examination Centre
Himachal Pradesh	Shimla, Dharamshala, Mandi & Hamirpur
Out of Himachal Pradesh	Chandigarh & Delhi

If the strength of candidates in any center(s) falls below the requisite number, then University reserve the right to allot the other available examination Centre.



## ADMIT CARD

Admit cards for appearing in the entrance test will be generated online only, to those candidates who have submitted their online application forms complete in all respect before or by the last date as notified by the University. Online Admit cards to such candidates will be activated as per dates scheduled and candidates are advised to download the same after logging in to the online registration account created during the online submission of application. So, **candidates are advised not to forget their registration ID and password of account created for online application.** *No separate admit card will be issued to the candidates from UIT.* Without the valid admit card, candidate will not be allowed to enter the examination hall. Admit card is to be retained by the candidate as he/she may have to produce the card at the time of counseling and admission or at any time during the admission process, when asked for.

## COUNSELING

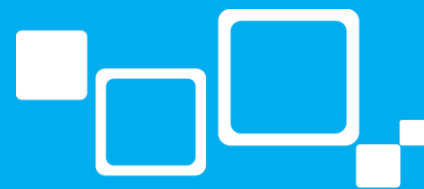
Dates of counseling and the list of candidates eligible to attend counseling will be displayed on University website <https://admissions.hpshimla.in> or <http://www.hpuniv.ac.in> or <https://hpuniv.ac.in/university-detail/home.php?uiit>

**No other communication whatsoever shall be made with the candidates in this regard.** There will be a counseling system to allot the available seats in the order of combined merit drawn category wise by the University. The eligibility of the candidates will be determined by the counseling committee (to recommend the admission to UIT). **Final merit and allotment of the seats in different courses will be decided only for those candidates who will appear for counseling in person as per counseling schedule.** In case of unavoidable circumstances, the candidates who will not be able to appear in person may depute an authorized person to convey his/her consent for the course, i.e. B. Tech. (IT/CSE/CE/EE/ECE), with a **letter of authority**. Failing which, the merit of the candidate will be cancelled. The committee will also prepare a waiting list and as soon as vacancy arises, next candidate(s) from the waiting list will be allotted seat(s) in the UIT. This information will be available on the University website <http://www.hpuniv.ac.in> and no other mode of communication will be used in this regard.

**Important Note:** If candidate is unable to produce/bring original certificates at the time of counseling, his/her candidature will be rejected there and then by the committee constituted for counseling for B. Tech. (IT/CSE/CE/EE/ECE) course without any notice.

**All disputes are subject to Judicial Courts in Shimla.**





## SYLLABI OF ENTRANCE TEST

### (a) Physics

**Mechanics:** Unit and dimensions, displacement, velocity, acceleration, kinematics in one and two dimensions, projectiles, circular motion, concept of relative motion. Newton's laws of motion, concepts of inertial and uniformly accelerated frames. Force, spring force, frictional force, and gravitational force. Work, energy and power, momentum, conservation of momentum and energy. Linear and angular momentum, simple, harmonic motion. Universal law of gravitation, gravitational potential and field, acceleration due to gravity, motion of planets and satellites in circular orbits, Kepler's laws.

**System of Particles:** Center of mass and its motion, elastic and inelastic collisions. Rigid bodies, moment of inertia, parallel and perpendicular axes theorems, moment of inertia of simple geometrical shapes, i.e. uniform ring, disc, thin rod, cylinder. Angular momentum, its conservation, torque, equilibrium of rigid bodies.

**Bulk Properties of Matters:** Hook's law; Young's shear and bulk modulus. Principle of buoyancy, pressure in fluid, streamlined flow, Bernoulli's theorem.

**Wave Motion:** concepts of amplitude, frequency and phase. Longitudinal and transverse waves, superposition of waves, progressive and stationary waves. Vibration of strings and air columns, resonance, beats, velocity of sound, Doppler effect.

**Heat and Thermodynamics:** Thermal expansion of solids, liquids and gases, ideal gas laws, absolute temperature, specific heats and their ratio, Isothermal and adiabatic processes. First law of thermodynamics, Carnot's cycle and refrigerator, Heat conduction in one dimension, elementary concepts of black body radiation. Stefan's law of radiation. Wien's displacement law.

**Electrostatics:** Coulomb's Law, electric field and electric potential, lines of force, capacitance, dielectric constant, parallel plate capacitor, capacitors in series and parallel. Energy stored in capacitor, charging and discharging of capacitor.

**Current Electricity:** Electric current, Ohm's law, series and parallel arrangements of resistance's and cells. Kirchoff's laws and applications to networks. Heating effect of current. Biot-Savart's law, force on a moving charge and on a current carrying wire in a magnetic field, magnetic moment of a current loop, effect of a uniform magnetic field on a current loop, moving coil galvanometer, voltmeter, ammeter.

**Electromagnetic Induction:** Faraday's law, Lenz's law, definitions of self and mutual inductance. A. C Generator, LCR circuit with A.C. Phasor diagrams and L-C oscillations.

**Optics:** Reflection and refraction at plane and curved surfaces. Total internal reflection and critical angle. Deviation and dispersion of light by a prism. Thin lenses, Spherical aberration, microscope, telescope. Wave Nature of Light: Interference. Young's double slit experiment, fringe width, elementary concepts of diffraction by a single slit.

**Atomic and Nuclear Physics:** Radioactivity: alpha, beta and gamma radiations, law of radioactive decay, decay constant, half- life and mean life. Photoelectric effect, de-Broglie wavelength, Bohr's theory of hydrogen- like atoms. Atomic nucleus, binding energy and its calculation.

**Semiconductor Physics and Electronics:** Elementary concepts of metals. Insulators and semiconductors, Intrinsic and extrinsic semiconductors, p-n junction diode, rectifier, basics of transistors, transistor amplifier (in CE mode).



## (b) Chemistry

### 1. Physical Chemistry

**General Topics:** Concept of atoms and molecules; Dalton's atomic theory; Mole concept, Calculations (based on mole concept) involving common oxidation-reduction, neutralisation, and displacement reactions; Concentration in terms of mole fraction, molarity and normality.

**Gaseous And Liquid States:** Absolute scale of temperature, ideal gas equation; Deviation from ideality, van der Waals equation; Kinetic theory of gases, average, root mean square and most probable velocities and their relation with temperature; Law of partial pressures; Vapour pressure.

**Atomic Structure And Chemical Bonding:** Bohr model, spectrum of hydrogen atom, quantum numbers; Wave-particle duality, de Broglie hypothesis; Uncertainty principle; shapes of s, p and d orbital's; Electronic configurations of elements (up to atomic number 36); Aufbau principle; Pauli's exclusion principle and Hund's rule; Orbital overlap and covalent bond; Hybridisation involving s, p and d orbital's only; VSEPR model and shapes of molecules (linear, angular, triangular, square planar, pyramidal, square pyramidal, trigonal bi-pyramidal, tetrahedral and octahedral).

**Energetics:** First law of thermodynamics; Internal energy, work and heat, pressure-volume work; Enthalpy, Hess's law; Heat of reaction, fusion and vapourization; Second law of thermodynamics; Entropy; Free energy; Criterion of spontaneity.

**Chemical Equilibrium:** Law of mass action; Equilibrium constant, Le Chatelier's principle; Solubility product, common ion effect, pH and buffer solutions; Acids and bases (Bronsted and Lewis concepts).

**Electrochemistry:** Electrochemical cells and cell reactions; Standard electrode potentials; Nernst equation; Electrochemical series, emf of galvanic cells; Faraday's laws of electrolysis; Electrolytic conductance, specific, equivalent and molar conductivity.

**Solid State:** Classification of solids, crystalline state, seven crystal systems, close packed structure of solids (cubic), packing in fcc, bcc and hcp lattices; coordination number, packing fraction.

**Solutions:** Raoult's law; Molecular weight determination from lowering of vapour pressure, elevation of boiling point and depression of freezing point.

### 2. Inorganic Chemistry

**Isolation/Preparation and Properties of the Following Elements and Compounds:** Boron, silicon, nitrogen, phosphorus, oxygen, sulphur and halogens; Properties of allotropes of carbon (only diamond and graphite), phosphorus and sulphur.

Oxides, peroxides, hydroxides, carbonates, bicarbonates, chlorides and sulphates of sodium, potassium, magnesium and calcium; Boron: diborane, boric acid and borax; Aluminium: alumina, aluminium chloride and alums; Carbon: oxides and oxyacid (carbonic acid); Silicon: silicones, silicates and silicon carbide; Nitrogen: oxides, oxyacids and ammonia; Phosphorus: oxides, oxyacids (phosphorus acid, phosphoric acid) and phosphine; Oxygen: ozone and hydrogen peroxide; Sulphur: hydrogen sulphide, oxides, sulphurous acid, sulphuric acid and sodium thiosulphate; Halogens: hydrohalic acids, oxides and oxyacids of chlorine, bleaching powder; Xenon fluorides.

Oxides and chlorides of tin and lead; Oxides, chlorides and sulphates of  $\text{Fe}^{2+}$ ,  $\text{Cu}^{2+}$  and  $\text{Zn}^{2+}$ ; Potassium permanganate, potassium dichromate, silver oxide, silver nitrate, silver thiosulphate. Ores and minerals: Commonly occurring ores and minerals of iron, copper, tin, lead, magnesium, aluminium, zinc and silver.



**Transition elements (3d series) :** Definition, general characteristics, oxidation states and their stabilities, colour (excluding the details of electronic transitions) and calculation of spin-only magnetic moment; Coordination compounds: nomenclature of mononuclear coordination compounds, cis-trans and ionisation isomerisms, hybridization and geometries of mononuclear coordination compounds (linear, tetrahedral, square planar and octahedral).

### 3. Organic Chemistry

**Concepts:** Hybridisation of carbon; Sigma and pi-bonds; Shapes of simple organic molecules; Structural and geometrical isomerism; Optical isomerism; IUPAC nomenclature of simple organic compounds (only hydrocarbons, mono-functional and bi-functional compounds); Hydrogen bonds: definition and their effects on physical properties of alcohols and carboxylic acids; Inductive and resonance effects on acidity and basicity of organic acids and bases; Polarity and inductive effects in alkyl halides;

**Preparation, Properties and Reactions of Alkanes, Alkenes and Alkynes:** Homologous series, physical properties of alkanes (melting points, boiling points and density); Combustion and halogenation of alkanes; Preparation of alkanes by Wurtz reaction and decarboxylation reactions. Physical properties of alkenes and alkynes (boiling points, density and dipole moments); Reactions of alkenes with  $\text{KMnO}_4$  and ozone; Reduction of alkenes and alkynes; Preparation of alkenes and alkynes by elimination reactions; Electrophilic addition reactions of alkenes with  $\text{X}_2$ ,  $\text{HX}$ ,  $\text{HOX}$  and  $\text{H}_2\text{O}$  ( $\text{X}$ =halogen); Addition reactions of alkynes; Metal acetylides.

**Reactions of benzene:** Structure and aromaticity; Electrophilic substitution reactions: halogenation, nitration, sulphonation, Friedel-Crafts alkylation and acylation.

**Phenols:** Acidity, electrophilic substitution reactions (halogenation, nitration and sulphonation); Reimer-Tiemann reaction.

**Alkyl halides:** Rearrangement reactions of alkyl carbocation, Grignard reactions, nucleophilic substitution reactions; Alcohols: esterification, dehydration and oxidation, reaction with sodium, phosphorus halides,  $\text{ZnCl}_2$ /concentrated  $\text{HCl}$ , conversion of alcohols into aldehydes and ketones.

**Ethers:** Preparation by Williamson's Synthesis; **Aldehydes and Ketones:** oxidation, reduction, oxime and hydrazone formation; aldol condensation, Perkin reaction; Cannizzaro reaction; haloform reaction and nucleophilic addition reactions (Grignard addition); **Carboxylic acids:** formation of esters, acid chlorides and amides, ester hydrolysis; **Amines:** Preparation from nitro compounds, reaction with nitrous acid, azo coupling reaction of diazonium salts of aromatic amines, Sandmeyer and related reactions of diazonium salts; carbylamine reaction;

**Carbohydrates:** Classification; mono- and di-saccharides (glucose and sucrose); Oxidation, reduction.

**Amino acids and peptides:** General structure (only primary structure for peptides) and physical properties.

**Properties and uses of some important Polymers:** Natural rubber, cellulose, nylon, teflon and PVC.



### (c) Mathematics

**Algebra:** Algebra of complex numbers, modulus and argument, triangle inequality,  $n^{\text{th}}$  roots of unity. Theory of quadratic equations and quadratic expressions, relationship between the roots and coefficients, sign of a quadratic expression, greatest and least values of quadratic expression. Arithmetic geometric and harmonic progressions, sums of arithmetic, geometric and harmonic progressions, Infinite geometric series, sums of the squares and cubes of the first  $n$  natural numbers. Mathematical induction, permutations and combinations, Binomial theorem for a positive integral index. Determinants of order two and three, solutions of simultaneous linear equations in two and three variables.

**Trigonometry:** Trigonometric functions and their graphs, addition and subtraction formulae, formula involving multiple and sub multiple angles, general solution of trigonometric equations, relations between the sides and angles of triangle, properties of a triangle, solutions of triangles, heights and distances, trigonometric functions.

**Analytical Geometry of Two Dimensions:** Equation of straight line in various forms, angle between two lines, distance of a point from a line, line through the point of intersection of two given lines, concurrency of lines. Equation of a circle in various forms, equations of tangent and normal, intersection of a circle with a straight line, equation of a circle through the points of intersection of two circles and that of a circle and a straight, line. Equations of the conic sections in the standard form, focus, directrix, eccentricity of the conic section, parametric equations, equations of tangent and normal.

**Calculus:** Into, onto and one-to-one functions, Sum, difference, product and quotient of two functions, composite function; absolute value, greatest integer, polynomial, rational, trigonometric, exponential and logarithmic functions, even and odd functions, inverse of a function. Limit and continuity of a function, limit and continuity of the sum, difference, product and quotient of two functions, continuity of composite function. Derivative of a function, derivative of composite and implicit functions, derivatives of polynomial, rational, trigonometric, inverse trigonometric, exponential and logarithmic functions. Geometrical interpretation of derivative, tangents and normal. Monotonicity, maximum and minimum values of a function. Derivatives up to order three.

**Integration, Differential Equations:** Integration as the inverse proves of differentiation, integration by parts, integration by the methods of substitution and partial fraction, Definite integral and its application for the determination of areas. Properties of definite integrals. Formational of differential equations. First order equation, variables separable and homogeneous equations. Probability: Addition and multiplication laws of probabilities, conditional probabilities. Vectors: Addition and vectors, scalar products, cross product, scalar and vector triple products, applications in geometry.



## SAMPLE QUESTIONS

### PHYSICS

1. Planck's constant has the dimensions of
  - a) Energy
  - b) Mass
  - c) Frequency
  - d) Angular momentum
2. The light travels as
  - a) Longitudinal waves
  - b) Mechanical waves
  - c) Transverse waves
  - d) Stationary waves
3. The photoelectric effect is based upon the law of conservation of
  - a) Momentum
  - b) Energy
  - c) Angular momentum
  - d) Mass

### CHEMISTRY

1. What will be the molarity of a solution, which contains 5.85 g of NaCl(s) per 500 mL?
  - a)  $4 \text{ mol L}^{-1}$
  - b)  $20 \text{ mol L}^{-1}$
  - c)  $0.2 \text{ mol L}^{-1}$
  - d)  $2 \text{ mol L}^{-1}$
2. The shape of  $\text{IF}_7$  molecule is
  - a) Octahedral
  - b) Tetrahedral
  - c) Trigonal bi-pyramidal
  - d) Pentagonal bi-pyramidal
3. Which of the following is an alicyclic compound?
  - a) Benzene
  - b) Hexane
  - c) Cyclohexane
  - d) Furon

### MATHEMATICS

1. The value of  $\cos 20^\circ \cos 40^\circ \cos 60^\circ \cos 80^\circ$  is
  - a)  $1/8$
  - b)  $1/20$
  - c)  $1/16$
  - d)  $1/32$
2. How many numbers having 6 digits, which are not divisible by 5, can be formed from the digits 4, 5, 6, 7, 8, 9, no digit being repeated?
  - a) 720
  - b) 120
  - c) 620
  - d) 600
3. In an ellipse, the distance between its foci is 6 and minor axis is 8. Then its eccentricity is
  - a)  $3/5$
  - b)  $1/2$
  - c)  $4/5$
  - d) 7



## ADMINISTRATION

<b>VICE –CHANCELLOR, HPU</b>	<b>:</b>	<b>Prof. S. P. Bansal</b>
<b>PRO VICE –CHANCELLOR, HPU</b>	<b>:</b>	<b>Prof. Jyoti Prakash</b>
<b>DEAN OF STUDIES, HPU</b>	<b>:</b>	<b>Prof. Kulbhushan Chandel</b>
<b>DEAN, FACULTY OF ENGG. &amp; TECHNOLOGY</b>	<b>:</b>	<b>Prof. Nagesh Thakur</b>
<b>DIRECTOR, UIT</b>	<b>:</b>	<b>Prof. P. L. Sharma</b>
<b>CO-ORDINATORS, UIT</b>	<b>:</b>	<b>Dr. Ramesh Thakur</b> <b>Dr. Sumesh Sood</b>

## FACULTY

### Department of Applied Sciences, Management and Humanities:

- |                                 |  |
|---------------------------------|--|
| 1. <b>Dr. Shyam Chand</b>       | <b>Head of the Department (Applied Science &amp; Humanities)</b><br>Coordinator: Admissions, UIT-NAAC Coordinator, Institute Nodal Officer-NSP and other Scholarships, Editor- UIT Newsletter. |
| 2. <b>Dr. Praveen K. Sharma</b> | Assistant Professor (Mathematics)<br>Coordinator: Discipline Committee and Incharge: Internal Examinations & Time-Table, Associate Editor -UIT Newsletter.                                     |
| 3. <b>Dr. Neetu Dhiman</b>      | Assistant Professor (Mathematics)  |
| 4. <b>Dr. Sidharth Kashyap</b>  | Assistant Professor (Management)   |
| 5. <b>Dr. Seema Banta</b>       | Assistant Professor (English)  |
| 6. <b>Mr. Pradeep Kumar</b>     | Assistant Professor (Physics)  |

### Department of Computer Science Engineering/Information Technology:

- |                                |  |
|--------------------------------|--|
| 1. <b>Dr. Dharendra Sharma</b> | Professor (Programming), Director Campus Networking/WiFi                     |
| 2. <b>Dr. Balvir S. Thakur</b> | <b>Head of the Department (CSE)</b><br>Incharge: UIT-AICTE, Inter-activities |
| 3. <b>Dr. Akshay Bhardwaj</b>  | <b>Head of the Department (IT)</b>   |
| 4. <b>Dr. Rajesh Chauhan</b>   | System Administrator, Incharge: UIT Website                                  |
| 5. <b>Mr. Sunil Kumar</b>      | Programmer, Assistant Training and Placement Officer                         |
| 6. <b>Er. Shweta Rajput</b>    | Programmer, Incharge: UIT Website  |
| 7. <b>Mr. Dharmender</b>       | Assistant Professor (IT/CSE)   |
| 8. <b>Ms. Akanksha Sambyal</b> | Assistant Professor (IT/CSE)   |

### Department of Electronics and Communication Engineering (ECE):

- |                             |  |
|-----------------------------|--|
| 1. <b>Dr. Neeru Sharma</b>  | <b>Head of the Department (ECE)</b> , Incharge: Academics      |
| 2. <b>Er. Anu Gaur</b>      | Assistant Professor, Coordinator: online classes, virtual labs |
| 3. <b>Er. Ajay Lotheta</b>  | Assistant Professor  |
| 4. <b>Dr. Anjali Sharma</b> | Assistant Professor, Coordinator: UIT Clubs and all Functions  |
| 5. <b>Dr. Tarun Sharma</b>  | Assistant Professor, Coordinator: AICTE related works          |





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| 6. Dr. Kapil         | Assistant Professor, Coordinator: TEQIP, NBA                               |
| 7. Dr. Swati Singh   | Assistant Professor, Coordinator: Web resources, Complaint Reddressal cell |
| 8. Dr. Richa Chandel | Assistant Professor, Coordinator: Environment                              |
| 9. Dr. Shalu Kaundal | Assistant Professor, Coordinator: Academic and Sports Calendar             |
| 10. Er. Rajeev Kumar | Assistant Professor, Member: Library committee, coaching cell              |
| 11. Er. Reetam Negi  | Assistant Professor, Member: Construction, Complaint, Library              |
| 12. Mr. Atul         | Assistant Professor  |

### Department of Civil Engineering (CE):

- |                         |  |
|-------------------------|--|
| 1. Dr. Mahesh Sharma    | <b>Head of the Department (CE)</b><br>Coordinator: Placement, MOUs, UIT-Journal, Counseling Cell                       |
| 2. Dr. Disha Thakur     | Assistant Professor, Coordinator: Examination and Attendance   |
| 3. Er. Ravi Kumar       | Assistant Professor, Member: Library, Fee committee, clubs, Coaching Classes   |
| 4. Er. Praveen Bhardwaj | Assistant Professor, Member: Library, Fee committee, Newsletter Committee, construction committee, annual calendar     |
| 5. Er. Harish Chand     | Assistant Professor, Member: Clubs, online teaching, virtual labs, Construction committee, coaching classes            |
| 6. Er. Rahul Prashar    | Assistant Professor, Coordinator: Construction related activities<br>Member: Village Adoption                          |
| 7. Er. Rakesh Kumar     | Assistant Professor, Member: Library, Alumni association, Fee Committee, Server committee, Construction, Coaching etc. |
| 8. Mr. Daljeet Singh    | Assistant Professor  |

### Department of Electrical Engineering (EE):

- |                           |   |
|---------------------------|---|
| 1. Dr. Sanjay Kumar       | <b>Head of the Department (EE)</b><br>Incharge RTI, Finance, grants, Alumni Association           |
| 2. Dr. Nikita Gupta       | Assistant Professor, Coordinator: NPTEL/SWAYAM, coaching  |
| 3. Dr. Jasmine Kaur Saini | Assistant Professor, Coordinator: Village Adoption, Tours (Industry/Educational), Counseling cell |

#### LABORATORY STAFF

Mr. Mahender Kumar	Laboratory Technician
Mr. Vijay Kumar	Laboratory Attendant
Mr. Vikas Sharma	Laboratory Attendant
Mrs. Sarla Kumari	Laboratory Attendant

#### OFFICE & LIBRARY STAFF

Ms. Raj Kumari	Personal Assistant
Mr. Gian Chand	Superintendent (Gr.-II)
Mr. Lalit Chauhan	Senior Assistant
Mr. Sanjeev Kumar	Incharge Library
Mr. Krishan Kumar	Clerk
Mr. Manuj Kumar	Clerk
Mr. Lalit Kumar	Clerk
Mrs. Poonam Panta	Clerk-cum-Data Entry Operator
Smt. Chinta Devi	Peon
Ms. Nidhi Sharma	(Computer Operator from NIELIT)
Mr. Gaurav Sharma	(Computer Operator from NIELIT)



<b>DRIVER:</b>	Mr. Vishal Sankhyan	
<b>SECURITY GUARDS:</b>	Mr. Bhim Chand	Mrs. Swaroopi
	Mr. Dalip Kumar	
	Mr. Dinesh Kumar	
<b>SANITARY HELPERS:</b>	Sanitary Supervisor	: 1
	Sanitary Workers	: 5
<b>CAFETERIA HELPERS:</b>	In-charge	: 1
	Cook/ Waiter	: 2

### INFORMATION TO BE FILLED UP IN THE ONLINE APPLICATION FORM FOR ENTRY INTO B. TECH. (IT/CSE/CE/EE/ECE) 1<sup>st</sup> YEAR

#### GENERAL INSTRUCTIONS:

**NAME OF THE CANDIDATE:** Write your name in capital letters as in matriculation certificate.

**FATHER'S NAME:** Write name of your father

**DATE OF BIRTH:** Select the date, month and year of your birth as per the English calendar and as recorded in your 10<sup>th</sup>/High School Board Examination Certificate.

**SEX:** Select appropriate option, whichever is applicable to you.

**CATEGORY:** Select appropriate option out of these four categories, whichever is applicable to you.

**SINGLE GIRL CHILD (only child of parents, that too a girl):** Select Yes or No, whichever is applicable to you.

**WARD OF H.P. UNIVERSITY EMPLOYEE:** Select Yes or No, whichever is applicable to you.

**J & K BONAFIDE:** Are you a bonafide Domicile resident of Jammu & Kashmir? Select Yes or No

**NATIONALITY:** Write your nationality

**EXAMINATION CENTRE PREFERENCE:** Select appropriate option as per your choice. An examination center may be discontinued due to inadequate strength, operational difficulties or any reason whatsoever. Candidates may not necessarily be allotted a particular city/town as examination center of their choice.

**QUALIFYING EXAM PASSED FROM:**

a) **BOARD:** Select option, as applicable

b) **10+2 School located in State:** Select appropriate option, whichever is applicable to you.

**RELIGION:** Select appropriate option, whichever is applicable to you.

**PHONE NUMBER:** Write your Mobile number, on which you can be contacted or a message can be left in case of exigency

**EMAIL ID:** Provide your email ID

**DECLARATION BY THE CANDIDATE:** The candidate must sign this declaration (for which you simply need to upload your scanned signature at the moment when asked to do so).

**Note:** Those candidates whose annual income of parents from all the sources is less than Rs.2.5 lakh are considered Low Income (LI) groups and as per AICTE norms, such meritorious admitted students will be considered for fee waiver (03 candidates per branch). So it is advised to the eligible candidates to get the income certificate of parents issued from the competent authority and same will be asked to be produced at the time of counseling for consideration of fee waiver.

**Last date of online submission: ON OR BEFORE 30-06-2022 (30<sup>th</sup> June, 2022)**



## IMPORTANT DATES

- |   |   |                   |
|---|---|-------------------|
| 1. Date of activation of online application form<br>(Fresh entry & Lateral entry) | : | <b>12-05-2022</b> |
| 2. Last Date of submission of online application form                             |   |                   |
| Fresh Entry to <b>First-Year</b>  | : | <b>30-06-2022</b> |
| Lateral Entry to <b>Second Year</b>   | : | <b>20-07-2022</b> |
| 3. Last date of correction in application form (Fresh Entry)                      | : | <b>03-07-2022</b> |
| 4. Activation of downloadable Admit Card  | : | <b>06-07-2022</b> |
| 5. Date of Entrance test for Fresh entry  | : | <b>10-07-2022</b> |
| 6. Date of Declaration of Entrance Exam Result                                    | : | <b>18-07-2022</b> |
| 7. Display of Counseling Schedule on University/UIT website                       | : | <b>21-07-2022</b> |

**Following dates shall be announced later separately**

8. Date of First counseling for fresh entry :
9. Date of counseling for **Lateral entry**
10. Date of Commencement of Classes (for all semesters)
11. Last date of Withdrawal of Admission without deduction
12. Last date of admission
13. Last date of admission (with the permission of Hon'ble Vice-Chancellor)