

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

(NAAC Accredited “A” Grade University)



**PRA VESH UIT-2022**

**(PG-Programmes)**

**Master of Technology (M. Tech.)**

**in**

**Computer Science Engineering (CSE)  
and Information Technology (IT)**

**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 M.Tech. courses for the academic session 2022-23.

The location of the institute presents 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 milestones 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 M.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 M.Tech. courses.

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. It has also started Masters programmes in Information Technology and Computer Science Engineering as well as Doctoral Programmes in **Civil Engineering, Electrical Engineering, Electronics & Communication Engineering, Information Technology and Computer Science Engineering (CE, EE, ECE, IT & CSE) and Applied Sciences and Applied Sciences** this year.

It gives me immense pleasure in bringing the **"PRAVESH UIT-2022"**, an online application process for admission to PG Programmes 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 alumnus is 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**



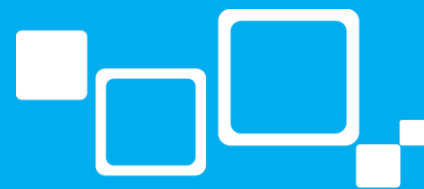
# PROSPECTUS

## University Institute of Technology (UIT) Himachal Pradesh University

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## 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 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 Hardware**

- 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 GHz 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 own and bring their own Laptops with Wi-Fi connectivity, which is an essential tool for the students of M. 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 Inflibnet for higher education. University Institute of Technology is part of the Campus Wide Optical Fibre 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/> 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.

## 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.

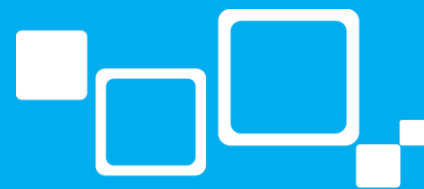
## ATTENDANCE

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)

- 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.
- 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.
- 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> 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, Statutes, 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.**

## PLACEMENT CELL

The Institute has a dedicated/effective placement cell which conducts placement activities round the year.

## ACADEMIC PROGRAMMES

### Courses offered

Under PG programmes, UIT offers Masters of Technology in Information Technology (IT) and Computer Science Engineering (CSE).

### Duration:

The M. Tech. programmes in UIT shall be of two (02) year duration, spread over four (04) semesters and shall be run on Full Time basis. Further, a maximum of six months extension may be provided (on the recommendation of Departmental council and approved by the Director UIT) to the candidate in the case his/her Dissertation work needs to be improved.

**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

### ELIGIBILITY

B.Tech./B.E./AMIE in CSE/IT or equivalent with minimum 55% marks (50% marks for SC/ST Category)

**OR**

MCA (Undergraduate degree B.Sc. with Physics & Mathematics or BCA or equivalent) with minimum 55% marks (50% marks for SC/ST Category)

**OR**

Master Degree with minimum 55% marks (50% marks for SC/ST Category), or equivalent grade point in Mathematics/Physics/Electronics/IT

**OR**

Any Examination Foreign Universities, which is recognised as equivalent for the above purpose by equivalence committee of its own or on recommendation of association Indian Universities with 55% marks (50% marks for SC/ST)

## Selection Procedure

- (i) For the admission to M. Tech. (CSE and IT), a common Entrance Test shall be conducted. However, those candidates, who have qualified GATE examination, shall be exempted from the Entrance Test.



- (ii) The preference to allot seats shall be given to the GATE qualified candidates in the order of merit of valid GATE score in the relevant subject.
- (iii) The left-out seats shall be filled on the basis of merit of Common Entrance Test.

### Resolving a Tie

The following Formulae shall be adopted to resolve a tie for Admission:

- (i) In case of a tie in marks scored in the entrance test the candidate securing higher %age of marks in the qualifying exam shall be admitted first.
- (ii) Further, if the tie is still not resolved, the candidate younger in age shall be admitted first.

## STUDENTS' INTAKE

The number of seats in each course shall be 18 + supernumerary seats as per H. P. University norms.

The reservation roster shall be applicable as per H. P. University norms.

### 120 POINT RESERVATION ROSTER

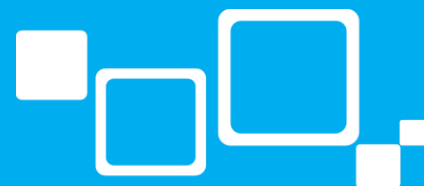
The 120 Point Reservation Roster of H.P. University, Shimla for Admission to M. Tech. (IT/ CSE) in UIT.

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 for M. Tech. \*

(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)	25,000.00
2	Laboratory Security (Refundable*)(One Time Only)	5,000.00
3	Library Security (Refundable*)(One Time Only)	1,000.00
4	Admission Fee (One Time Only)	1,500.00
	<b>Total</b>	<b>32,500.00</b>

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
	<b>Total</b>	<b>8,090.00</b>

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
	<b>Total</b>	<b>3,110.00</b>

S.No.	(D) Other Annual Charges (to be retained in the account)	(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
	<b>Total</b>	<b>3,500.00</b>
	<b>Grand Total= (A+B+C+D)</b>	<b>47,200.00</b>

<b>University Registration Fee (One Time Only)</b>	<b>As per HPU norms</b>
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**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 even semesters

**7<sup>th</sup> to 21<sup>st</sup> of December** of the academic year for odd semesters

**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.



## **SYLLABUS FOR ENTRANCE TEST FOR ADMISSION IN M. TECH. COMPUTER SCIENCE & ENGINEERING (CSE) and INFORMATION TECHNOLOGY (IT) UIT, HPU, SUMMERHILL SHIMLA**

### **COMPUTER ORGANISATION AND ARCHITECTURE**

Digital Logics: Boolean algebra. Combinational and sequential circuits. Minimization. Number representations and computer arithmetic (fixed and floating point). Machine instructions and addressing modes. ALU, data-path and control unit. Instruction pipelining, pipeline hazards. Memory hierarchy: cache, main memory and secondary storage; I/O interface (interrupt and DMA mode).

### **DATA STRUCTURES & ALGORITHMS**

Programming in C. Recursion. Arrays, stacks, queues, linked lists, trees, binary search trees, binary heaps, graphs. Searching, sorting, hashing. Asymptotic worst case time and space complexity. Algorithm design techniques: greedy, dynamic programming and divide-and-conquer. Graph traversals, minimum spanning trees, shortest paths

### **OPERATING SYSTEM**

System calls, processes, threads, inter-process communication, concurrency and synchronization. Deadlock. CPU and I/O scheduling. Memory management and virtual memory. File systems.

### **THEORY OF COMPUTATION**

Regular expressions and finite automata. Context-free grammars and push-down automata. Regular and context-free languages, pumping lemma. Turing machines and undecidability.

### **COMPILER DESIGN**

Lexical analysis, parsing, syntax-directed translation. Runtime environments. Intermediate code generation. Local optimisation, Data flow analyses: constant propagation, liveness analysis, common subexpression elimination.

### **COMPUTER NETWORK**

Concept of layering: OSI and TCP/IP Protocol Stacks; Basics of packet, circuit and virtual circuit switching; Data link layer: framing, error detection, Medium Access Control, Ethernet bridging; Routing protocols: shortest path, flooding, distance vector and link state routing; Fragmentation and IP addressing, IPv4, CIDR notation, Basics of IP support protocols (ARP, DHCP, ICMP), Network Address Translation (NAT); Transport layer: flow control and congestion control, UDP, TCP, sockets; Application layer protocols: DNS, SMTP, HTTP, FTP, Email.

### **DATABASE MANAGEMENT**

ER-model. Relational model: relational algebra, tuple calculus, SQL. Integrity constraints, normal forms. File organization, indexing (e.g., B and B+ trees). Transactions and concurrency control.

### **Sample Questions:**

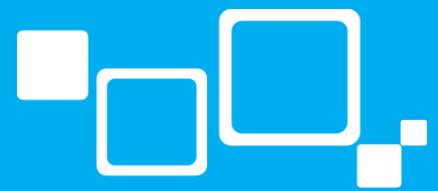
Q1. Which of the following is a type of architecture used in the computers nowadays?

- a) Micro-architecture
- b) Harvard Architecture
- c) Von-Neumann Architecture
- d) System Design

Q2. Which of the architecture is power efficient?

- a) RISC
- b) ISA
- c) CISC
- d) IANA





- Q3. The VLIW Architecture follows ----- approach to achieve parallelism.
- SISD
  - SIMD
  - MIMD
  - MISD
- Q4. In a stack, if a user tries to remove an element from an empty stack it is called:
- Underflow
  - Empty collection
  - Garbage collection
  - Overflow
- Q5. The set of all recursively enumerable languages is:
- Closed under complementation.
  - Closed under intersection.
  - A subset of the set of all recursive languages.
  - an uncountable set
- Q6. Which one of the following statements is FALSE?
- Context-free grammar can be used to specify both lexical and syntax rules.
  - Type checking is done before parsing.
  - High-level language programs can be translated to different Intermediate Representations.
  - Arguments to a function can be passed using the program stack.
- Q7. Which one of the following is used to represent the supporting many-one relationships of weak entity set in entity relationship diagram?
- Diamonds with double/bold border
  - Rectangles with double/bold border
  - Ovals with double/bold border
  - Ovals that contain underline identifiers
- Q.8 Which layer incorporates the physical address in a frame?
- Physical Layer
  - Network Layer
  - Data Link Layer
  - Presentation Layer
- Q9. In Operating Systems, which of the following is/are CPU scheduling algorithms?
- Priority
  - Round Robin
  - Shortest Job First
  - All the above
- Q10. Which of the following cannot be a variable name in C language?
- Volatile
  - True
  - Friend
  - Export
- Q11. Which type of data is stored in DBMS?
- Image oriented data
  - Text, files containing data
  - Data in form of audio or video
  - All the above



## ADMINISTRATION

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

## FACULTY

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

- 1. Prof. Dharendra Sharma** Professor (Programming)
- 2. Dr. Balvir S. Thakur** Assistant Professor (IT/CSE) Incharge: UIT-AICTE Inter-activities
- 3. Dr. Akshay Bhardwaj** Assistant Professor (IT/CSE)
- 4. Dr. Rajesh Chauhan** System Administrator, Incharge: UIT Website
- 5. Mr. Sunil Kumar** Programmer, Assistant Training and Placement Officer
- 6. Er. Shweta Rajput** Programmer, Incharge: UIT Website
- 7. Er. Dharmender** Assistant Professor (IT/CSE)
- 8. Er. Akanksha Sambyal** Assistant Professor (IT/CSE)

### 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
Mr. Gaurav Sharma	Data Entry Operator
Mrs. Nidhi Sharma	Data Entry Operator
Smt. Chinta Devi	Peon

### DRIVER:

### SECURITY GUARDS:

Mr. Vishal Sankhyan	
Mr. Bhim Chand	Mrs. Swaroopi
Mr. Dalip Kumar	



Mr. Dinesh Kumar

**SANITARY HELPERS:**

Sanitary Supervisor : 1  
Sanitary Workers : 5

**CAFETERIA HELPERS:**

In-charge : 1  
Cook/ Waiter : 2

## **IMPORTANT DATES**

**1. Date of activation of online application form : 08-08-2022**

**2. Last Date of submission of online application form : 10-09-2022**

Dates of Entrance Test and Counselling Schedule shall be notified later .

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