# Information Brochure Master of Technology M. Tech. (Computer Science)

**Session 2015-17** 

#### Vision

To keep pace with the emerging trends in Computer Science and Technology

#### **OUR AIMS**

Producing a class of computer professionals

Achieving academic excellence

Nurturing the students of today into resolute builders of the future

Discover the ultimate in the field of Computer Science and Technology

To strengthen the computer literacy missions of the Government

To enlighten the forthcoming generations with the best of computer education

To impart technical and interpersonal skills to the students

To produce computer professionals who can face not only the present but also future challenges of I.T. Industry

Endeavour to provide I.T. based solutions to the society

#### Motto

To produce skilled professionals in computer applications



# हिमाचल प्रदेष विष्वविद्यालय – कुलगीत

पवित्रित वेदमंत्रों से मनोरम देवभूमि—निलय विराजे नवल नालन्दा उन्हीं की छाँव में मधुमय हिमाचल विष्वविद्यालय विविध विद्यावलय, जय जय !!

धरा जो शक्तिपीठों की, धरा शत कोटि तीर्थों की धरा जो शैलसंस्कृति की, धरा जो नृत्य—गीतों की जहाँ रावी—विपाषा —चन्द्रभागा पुण्य सलिलायें कुसुम गलहार बनती हैं शतद्रू संग, सरितायें

धरा माण्डव्य ऋषि की परम पावन, ज्ञानमय—चिन्मय हिमाचल विष्वविद्यालय विविध विद्यावलय, जय जय !!

जहाँ तक रम्य धौलाधार पर्वत— श्रृंखला दिखतीं वहाँ तक ज्ञान मधु रिष्मयाँ नितफैलती रहतीं थिरकते पाँव नाटी पर, लरजते गीत चम्बा के स्वयं श्री शारदा साकार हो उठतीं उन्हें गाके

लिये ' शस्त्रे च षास्त्रे कौषलम्' का मंत्र जो निर्भय हिमाचल विष्वविद्यालय विविध विद्यावलय, जय जय !!

तपोरत देवदारु खड़े तथागत—सदृष हैं लगते सुभग सन्देष मैत्री का निरन्तर बाँटते रहते हिमाचल का परम गौरव, सदन विद्या—कलाओं का सदन विज्ञान का, तकनीकियों का, योग्यताओं का

निरन्तर बढ़ रहा आगे उदित रवि सा, सतत समुदय हिमाचल विष्वविद्यालय विविध विद्यावलय, जय जय !!



हिमाचल प्रदेश विश्वविद्यालय

समरहिल, शिमला-171005

आचार्य अरूण दिवाकर नाथ वाजपेयी कुलपति

#### संदेश

मुझे यह जानकर प्रसन्नता हो रही है कि हिमाचल प्रदेश विश्वविद्यालय के कम्प्यूटर विज्ञान विभाग में शैक्षणिक सत्र 2015-16 में एम.टैक की छंटनी परीक्षा पर आधारित प्रवेश परीक्षा प्रक्रिया के लिए विवरणिका तैयार कर ली है।

डॉ. वाई.एस.परमार जैसे मनीषियों की दूरदर्शिता का जीवन्त प्रतीक यह विश्वविद्यालय ज्ञान विज्ञान एवं आधुनिक वैज्ञानिक चिन्तन दृष्टि का एक अद्भुत संगम है। विश्वविद्यालय में प्राच्य भारतीय विषयों से लेकर विज्ञान एवं प्रौद्योगिकी के आधुनिक विषयों के स्नातक एवं स्नातकोत्तर स्तर पर समुचित शिक्षण कार्यक्रम चलाए जाते हैं।

इस विश्वविद्यालय ने अपने अस्तित्व के लगभग 46 वर्षों में शिक्षा के प्रचार-प्रसार के कई कीर्तिमान स्थापित किए हैं तथा यह विश्वविद्यालय पूरे राज्य का एक मात्र सम्बद्धता प्रदान करने के अतिरिक्त सह-आवासीय उच्चिशिक्षा का प्रगतिशील केन्द्र है।

21वीं शताब्दी में महापरिवर्तन के क्रम में नवीन चुनौतियों व सम्भावनाओं को देखते हुए उच्चतर शिक्षा के क्षेत्र में प्रतिस्पर्छात्मक परीक्षाओं में श्रेष्ठ प्रदर्शन के लिए ग्रामीण क्षेत्रों पर अधिक ध्यान देने की आवश्यकता है। विश्वविद्यालय वैचारिक प्रभा के अरुणोदय हेतु शिखरोच्च धरातल है जहाँ विचारशीलता का प्रस्फुटन होता है। संवाद द्वारा ज्ञान का संवर्धन होता है। संवाद ही रचनात्मक सोच प्रक्रिया का प्रथम सोपान है।

हिमाचल प्रदेश विश्वविद्यालय अपने बहुआयामी शैक्षणिक क्षमता व सशक्त आधारभूत संरचना के साथ प्रौद्योगिकी, सामाजिक-विज्ञान एवं मानविकी विषयों द्वारा ज्ञान के संवादपरक संरचना निर्माण की दिशा में अग्रसर है।

छात्रों को सामाजिक व नैतिक रूप से उत्तरदायी बनाकर सामाजिकता का निर्वहन करने में समर्थ तथा उर्वर मस्तिष्क से युक्त कर एक ऐसे व्यक्तित्व का निर्माण करना जो अपने दायित्व बोध से विपरीत परिस्थितियों में भी विमुख न हों तथा सही अर्थों में कर्मयोगी हों, यही हमारा उद्देश्य है।

मैं इस विश्वविद्यालय में शिक्षा ग्रहण करने वाले सभी छात्र-छात्राओं को अपनी शुभेच्छाएं देता हूँ।

(अरुण दिवाकर नाथ वाजपेयी)

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HIMACHAL PRADESH UNIVERSITY

Summer Hill, Shimla - 171005



#### संदेश

मुझे यह जानकर हार्दिक प्रसन्नता हुई कि विश्वविद्यालय के कम्पयूटर विज्ञान विभाग में सत्र 2015—16 में एम.टैक. में प्रवेश प्रक्रिया आरम्भ होने जा रही है ।

इस विश्वविद्यालय ने उच्चतर शिक्षा के प्रचार प्रसार में कई नवाचार आरम्भ किए है तथा उनके सार्थक परिणाम धीरे—धीरे सामने आ रहे हैं ।

उच्चतर शिक्षा में दिनों दिन हो रही प्रगति से शिक्षा के क्षेत्र में नए आयाम स्थापित हुए हैं तथा हिमाचल प्रदेश विश्वविद्यालय भी नई सम्भावनाओं और चुनौतियों की कसौटी पर खरा उतरेगा ।

हिमाचल प्रदेश विश्वविद्यालय का उपयुक्त वातावरण उच्चतर शिक्षा ग्रहण करने के लिए अनुकूल है। मैं यहां शिक्षा ग्रहण करने के लिए आने वाले सभी छात्र छात्राओं को अपनी शुभकामनायें देता हूँ।

(राजेन्द्र सिंह चौहान) प्रतिकुलपति

#### From the Desk of Chairman



I take pride in inviting you to be the member of the 9<sup>th</sup> elite batch of M. Tech. (Computer Science) in the Department. The Department has earned a brand name in the academics as well as in the industry, not only in India but also abroad. The extremely skillful, determined and focused set of Computer Science and Information and Communication Technology professional being produced by the department is second to none in the world today. The students as well as the department is being nurtured by a highly qualified, motivated, and progressive group of young intellectual faculty members who are in the habit of taking any latest technological challenge head-on and delivering the best possible end results. All through, we have been striving hard to continuously provide our students the latest technological exposure by making them work on almost all the latest technological environments, giving them the complete understanding of the best theoretical concepts along with ample hands-on practice.

The field of Computer Science is growing exponentially and has started touching almost all the aspects of daily life of even the common man. With our growing economy, you as professionals-to-be definitely have a prominent constructive role to play in shaping the day-to-day life of tomorrow.

I am confident that your higher education journey through the Department of Computer Science will give you the richest experiences of your life. I am looking forward to welcome you in the department.

(Professor Manu Sood)

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## Instructions and Guidelines for Admission to M. Tech. (Computer Science) session 2015-17

The candidate should read the following instructions and guidelines carefully before filling up the application form and other information.

#### ADMISSION PROCEDURE

#### **About the Course:**

The M. Tech. (Computer Science) is a two years full time post-graduation course spread over four semesters. In this course, the students will be taught, the core subjects of Computer Science.

#### Eligibility:

Candidates, who have passed Master degree with minimum of 55% marks (50% marks for SC/ST category), or equivalent Grade point, in Mathematics/
Physics/Electronics/Computer Application(MCA)/ Computer Science /
Information Technology/ 4-years Bachelor's degree in Engineering
/Technology.

#### OR

Any examination, of university in foreign country, recognized as equivalent for the above purpose by equivalence committee of H. P. University or on recommendation of Association of Indian Universities with 55% marks (50% marks for SC/ST).

#### **Mode of Selection:**

The admission to M. Tech. (Computer Science) will be through the merit of an entrance test of duration 3 hours to be conducted by H.P. University, Shimla. The entrance test shall be of 200 MCQ type questions of one mark each, comprising of the following components:

Section	Contents	Marks		
A	Logical Ability	40		
В	Mathematics of Graduation level	40		
С	English and General Awareness	20		
D	Computer Ability	100		
Total 200				

The candidates who have qualified GATE/ NET/ SLET in Computer Science or Engineering will be given 20% extra of the marks obtained in the entrance test for calculating the merit for the purpose of admission.

# Minimum pass marks in the entrance test shall be 35% i.e. 70 marks out of a total of 200.

Number of Seats: 18

Supernumerary Seats: 01(Reserved for single child who is

a girl)

Seats for in-service candidates: 05(Reserved)

Total: 24

18 seats will be filled by following reservation for different categories as per the 106 point reservation roaster followed by H. P. University. In case, any of these seats (supernumerary and inservice seats for candidates) remain vacant due to the unavailability of suitable eligible candidates, these seats shall remain vacant and under no circumstances, conversions shall be allowed.

Being a self-financing course, in case the numbers of selected candidates after entrance exam are less than nine (09), then the course will not run for the academic year.

#### Application

Fee:

The duly filled in application form along with a demand draft of requisite amount in favor of the Chairman, Department of Computer Science, H. P. U. Shimla and payable at Shimla, shall reach the Chairman, Department of Computer Science, H.P.University, Summer Hill, Shimla-171005 on or before the last date of submission:

Application Fee for General Category:

Rs. 1000/-

Application Fee for SC/ST/IRDP/Antodaya Category:

Rs.500/-

#### CENTRE FOR THE ENTRANCE TEST

The Entrance Test for admission to the M. Tech. course shall be held at the following centre ONLY:

a) H.P. University Campus, Summer Hill, Shimla

#### RESERVATION FOR M. TECH.

(a) 15% and 7.5% of the seats shall be reserved for bonafide Himachali Scheduled Castes and Scheduled Tribes candidates respectively who have passed the qualifying examination from any University established by law in India which is equivalent to the qualifying examination of H.P. University.

#### (b) The remaining seats shall be filled as under

- (i) 25% seats shall be open to all the candidates irrespective of the institution from where they have passed their qualifying examination, in which the graduates of this University shall also be eligible to compete through competitive test.
- (ii) 75% of the seats shall be filled out of the candidates who have passed their qualifying examination from Himachal Pradesh University or H.P. Krishi Vishvavidyalaya or Dr. Y.S. Parmar University of Horticulture and Forestry, Himachal Pradesh Technical University and Central University of Himachal Pradesh or the candidates who are Himachal Pradesh Domicile irrespective of passing qualifying examination from any other Universities established by law in India which is equivalent to the qualifying examinations of Himachal Pradesh University.
- (iii) 3% of the seats shall be reserved for Physically Handicaped candidates who are Himachal Pradesh Domicile. The Registrar, H.P. University, Shimla vide letter/notification No. 4-16/2012HPU(Acad.) dated 2.1.2013 has conveyed the decision of Executive Council of its meeting held on 17.9.2012 taken vide Any Other Item adopted the H.P. State Govt.'s Instructions/Rules that no tuition fee be charged from the students with 40% and above disability. The student with special needs with more than 40% disability, admitted in any course of study running in the Himachal Pradesh University, Shimla will not be charged any fees with effect from the current academic session 2015-16 vide notification No. 4-51/2015 HPU(Acad) dated 25 July 2015
- **(C)** One supernumerary seat shall be reserved for Himachali bonafide only/single child who is a girl. In this respect, an affidavit issued by a competent authority shall have to be submitted by the candidate at the time of counselling.

#### II). In-service Candidates:

5 seats are reserved for in-service applicants.

The 'in-service' candidate shall be a candidate who is an

employee (on a regular or contract basis) of Govt. of Himachal Pradesh (including Colleges in & Universities under the Govt.) or Govt. of India or Boards/Corporations under state or centre governments having their headquarters in the state and is serving the organization in which currently employed for at least last 2 years. An in-service candidate has to submit the following along with the application form:

- a) The appointment letter from the employer and a certificate from the employer that he/she has been working with the concerned organization for at least last two years and shall continue to be on their roll for at least whole of the duration of the course,
- b) NOC on the prescribed proforma from his employer that in case the candidate is selected for the admission, he/she shall be granted a Study leave for a period of two years from the date of the commencement of the course as provided by the department. Upon confirmation of the admission, a letter on the prescribed proforma (provided by the department) from the employer, sanctioning study leave for a period of 2 years is to be submitted in the department on or before the stipulated last date of admission along with an affidavit from the court duly signed by the notary clearly stating that if the information supplied in any of the above mentioned documents is found to be contrary to the facts at any stage, the candidate shall be held responsible for it and the university shall have the right to cancel the admission/degree of the candidate.

The admission of such candidates shall be confirmed only if a letter from the employer sanctioning the study leave of two years is deposited within the stipulated period for the admission as mentioned in the prospectus. The validity of the above mentioned documents shall be assessed by the department and the department shall also have the right of corresponding with the employer of the candidate in case of any doubts regarding these documents. The decision of the department in rejecting or accepting these documents shall be final. In any case, notwithstanding the admission to the said course, if the department finds that the candidate has supplied false or misleading

information through any of the above mentioned documents, the university shall have the right to a) cancel the admission/degree of the candidate, and b) to initiate civil/criminal proceeding against the candidate.

106 POINT RESERVATION ROSTER FOR M.A. PHYSICAL EDUCATION W.E.F.1993-94, ONWARDS, M.PHIL. W.E.F. 1999 ONWARDS and LL. M. W.E.F 1992 ONWARDS.

Seat No.	Seat No.	Seat No.	Seat No.	
Seat No.				
1	26 SC	51	76	101
2	27 ST	52 SC	77	102
3	28	53	78 SC	103
4	29	54 ST	79	104 SC
5	30	55	80	105
6 SC	31	56	81 ST	106 ST
7	32 SC	57	82	
8	33	58 SC	83	
9	34	59	84 SC	
10	35	60	85	
11	36	61	86	
12	37	62	87	
13 SC	38	63	88	
14 ST	39 SC	64	89	
15	40	65 SC	90	
16	41 ST	66	91 SC	
17	42	67	92	
18	43	68 ST	93	
19 SC	44	69	94 ST	
20	45 SC	70	95	
21	46	71 SC	96	
22	47	72	97	
23	48	73	98 SC	
24	49	74	99	
25	50	75	100	

#### FEES STRUCTURE

- a) From all students, except for the in-service candidates, a fee of Rs.30,000/- (Rupees Thirty Thousand only) p.a. and an Equipment Fee of Rs.5, 000/- (Rupees Five Thousand only) p.a. along with other university dues shall be charged by the department. The demand draft of Rs.35,000/- (Rupees Thirty Five Thousand only) per annum payable at Shimla in favor of the Chairman, Department of Computer Science, H. P. University, Shimla-5 is to be deposited at the time of admission and subsequently in the beginning of the 2<sup>nd</sup> year.
- b) For in-service students, the fee shall be Rs.50, 000/- (Rupees Fifty

Thousand only) per annum and an Equipment Fee of Rs.5, 000/-(Rupees Five Thousand only) p.a. along with other university dues shall be charged by the department. The demand draft of Rs.55, 000/- (Rupees Fifty Five Thousand only) p.a. payable at Shimla in favor of the Chairman, Department of Computer Science, H. P. University, Shimla-5 is to be deposited at the time of admission and subsequently in the beginning of the 2<sup>nd</sup> year.

- c) The other university dues shall be charged as per university rules amended from time to time.
- d) Fee once deposited will not be refunded under any circumstances.

#### **COUNSELING**

The counseling shall be held in the Department of Computer Science in the H.P. University, Shimla for admission to the M. Tech. (Computer Science) course. The candidate has to attend the counseling in person along with all the original testimonials such as Date of Birth proof, 10+2, graduation, post-graduation, NET/SLET/GATE, bonafide resident, proof of only child who is a girl, proof of category etc.

#### 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)Even if the tie is not resolved, the candidate having higher aggregate marks in any two of the following (in which his marks are higher) shall be admitted first: Matriculation/ Hr. Sec. Part-I/Hr.Sec.Part-II/Prep/Pre-Med/Pre-Engineering/Intermediate/any other equivalent examination.
- (iii) Further, if the tie is still not resolved, the candidate younger in age shall be admitted first.

#### Refusal for Admission:

A candidate will be refused admission to the course if he/she does not fulfill minimum eligibility conditions. Notwithstanding

anything contained in the foregoing rules, a student shall be refused admission if his conduct during any previous stay in University has been unsatisfactory. Such student shall, however, have the right to appeal to the Vice-Chancellor whose decision shall be final. A student who has been expelled or rusticated shall not be admitted to any course of study in the University without the prior approval of the Vice-Chancellor.

#### SCHEME OF EXAMINATION

English will be the medium of instruction and examination.

- 1. Each theory paper shall be of 3 hours duration and shall carry 100 marks (75 marks for end semester theory examination and 25 marks for continual internal assessment).
- 2. In each theory paper, nine questions are to be set. Two questions are to be set from each Unit and candidate is required to attempt one question from each unit. Question number nine will be compulsory, which will be of short answer type with 5-10 parts, out of the entire syllabus. In all, five questions are to be attempted.
- 3. Each practical paper shall be of 3 hours duration and will carry 100 marks (50 marks for end semester practical examination and 50 marks for continual internal assessment).
- 4. In the III semester each student shall be:
- a) Attached to a teacher of the Department who shall act as a guide for seminar, minor project and Dissertation work of the students in III & IV semesters.
- b) Assigned a topic by the guide and the students are required to prepare and present a seminar.
- c) Assigned a topic for carrying out a minor project which normally may be related to the findings of a thorough study on a research area of significance which is relevant to the field of Computer Science. At the end of III semester, each student has to submit 4 nos. of copies of spiral bound report of his findings on the topic allotted to him/her in the office of the Department along with the softcopy of the same on a CDROM/DVD.

- d) Assessed and evaluated for minor project by an external examiner.
- 5. In the IV semester, each student is required to:
- a) Work on a topic in a significant area of research relevant to the field of Computer Science for dissertation under the guidance of his/her guide.
- b) Submit 5 nos. of hard bound copies of the dissertation in the office of the Department along with the softcopy of the same on a CDROM/DVD.
- c) Ensure the quality of the research work carried out by them in the III & IV semester, each student, hence is required to participate in some relevant regional/national level conferences/ workshops/ seminars during these semesters. Therefore, it is mandatory for each student to publish at least one research paper (Full paper or abstract or extended abstract in the proceedings in print version/ e-version) in a regional/ national level conference/ workshop/ Seminar. The certificate/proof of the published paper along with the paper shall form the part of the submitted dissertation. The students shall not be allowed to submit their dissertation without completing this requirement.
- 6. The dissertation of each candidate shall be sent to the external examiner well in advance by the Department of Computer Science, H. P. University before the conduct of the viva-voce examination.
- 7. The dissertation will be jointly evaluated by internal guide and external examiner.
- 8. Internal assessment will be given on the basis of class tests (best of 2 in a semester), seminars, surprise quizzes, class participation and regularity of the student in the class.

#### **Promotion Rule:**

The promotion norms of the MCA course are to be followed for the M. Tech. course too.

#### Curriculum Schema:

# MASTER OF TECHNOLOGY in COMPUTER SCIENCE M. Tech. (Computer Science)

#### First Semester

Paper	Title	Periods	Max	Continual	Exam
No.		per	Marks	Internal	Duratio
		Week	(Theory)	Assessment	n
					Hours
MT-101	Computer Architecture	4	75	25	3
	and Parallel Processing				
MT-102	Software Engineering	4	75	25	3
MT-103	Computer Oriented	4	75	25	3
	Optimization Method			A	
MT-104	Data Structure &	4	75	25	3
	Algorithm Analysis in C				
MT-105	Operating System and	4	75	25	3
	Case Study				
MT-106	Practical on MT-103	6	50	50	3
MT-107	Practical on MT-104	6	50	50	3

#### Second Semester

No. Week (Theory) Internal						
MT-201 Object Oriented Programming with JAVA  MT-202 Computer Networks 4 75 25  MT-203 Distributed Data Base 4 75 25  Management System  MT-204 Data Warehousing and 5 25  Data Mining  MT-205 Software Quality and 75 25  Testing  MT-206 Practical on MT-201 6 50 50	Paper	Title	Periods per	Max Marks	Continual	Exam
MT-201 Object Oriented Programming with JAVA  MT-202 Computer Networks 4 75 25  MT-203 Distributed Data Base 4 75 25  Management System  MT-204 Data Warehousing and 5 25  Data Mining  MT-205 Software Quality and 75 25  Testing  MT-206 Practical on MT-201 6 50 50	No.		Week	(Theory)	Internal	Duration
Programming with JAVA  MT-202 Computer Networks 4 75 25  MT-203 Distributed Data Base 4 75 25  Management System  MT-204 Data Warehousing and 5 25  Data Mining  MT-205 Software Quality and 75 25  Testing  MT-206 Practical on MT-201 6 50 50					Assessment	Hours
MT-202         Computer Networks         4         75         25           MT-203         Distributed Data Base Management System         4         75         25           MT-204         Data Warehousing and Data Mining         4         75         25           MT-205         Software Quality and Testing         4         75         25           MT-206         Practical on MT-201         6         50         50	MT-201	Object Oriented	4	75	25	3
MT-203 Distributed Data Base 4 75 25  Management System  MT-204 Data Warehousing and 4 75 25  Data Mining  MT-205 Software Quality and 75 25  Testing  MT-206 Practical on MT-201 6 50 50		Programming with JAVA				
Management System  MT-204 Data Warehousing and 4 75 25 Data Mining  MT-205 Software Quality and 4 75 25 Testing  MT-206 Practical on MT-201 6 50 50	MT-202	Computer Networks	4	75	25	3
MT-204         Data Warehousing and Data Mining         4         75         25           MT-205         Software Quality and Testing         4         75         25           MT-206         Practical on MT-201         6         50         50	MT-203	Distributed Data Base	4	75	25	3
Data Mining		Management System				
MT-205       Software Quality and Testing       4       75       25         MT-206       Practical on MT-201       6       50       50	MT-204	Data Warehousing and	4	75	25	3
Testing         50         50           MT-206 Practical on MT-201         6         50         50		Data Mining				
MT-206 Practical on MT-201 6 50 50	MT-205	Software Quality and	4	75	25	3
		Testing				
MT-207 Practical on MT-203 6 50 50	MT-206	Practical on MT-201	6	50	50	3
	MT-207	Practical on MT-203	6	50	50	3

#### Third Semester

Paper	Tit	Title		ds per	Max Marks	Continual	Exam
No.			W	'eek	(Theory)	Internal	Duration
						Assessment	Hours
MT-301	Research Meth	nodology in		4	75	25	3
	Computer Science						
MT-302	Elective – 1			4	75	25	3
Paper	Title	Periods per V	Week	Max	Continual	Evaluation	Marks
No.				Marks	Internal		
					Assessment		
MT-303	Seminar	8 in compute	er lab	100	25	75 (by Depart	ment )
		4 in library					
MT-304	Minor Project	8 in compute	er lab	200	100	100	)
		4 in library				( by External E	Examiner )

#### **Fourth Semester**

Paper		Periods per Day		Marks		
No.	Title		Maximum Marks	Continual Internal Assessment	<u>Publications</u>	Viva-Voce Examination
MT-401	Dissertation	5	500	125	125	250

#### **List of Electives**

MT-E01	Advanced Software Engineering Concepts
MT-E02	Artificial Intelligence & Expert System
МТ-ЕОЗ	Automata Theory and Compiler Design
MT-E04	Cyber Law
MT-E05	Cloud Computing
MT-E06	Distributed Systems
MT-E07	Graph Theory
MT-E08	Research Methodology
MT-E09	Service Oriented Architecture

#### Attendance:

In order to be eligible to appear in the university examinations a candidate should have secured 75% attendance in each of the concerned subjects (theory as well as practical).

#### APPLICATION FORM SUBMISSION

Duly filled in application form, ADMIT CARD, Identification Sheet and self-addressed envelope (with postage stamps of Rs.6/- affixed on it) must reach the Chairman, Department of Computer Science, H.P. University, Shimla-5 by the last date fixed for the purpose. The fee deposited will not be refundable under any circumstances.

#### Note:

Merely appearing in the entrance exam does not entitle the candidate for the right to admission unless the candidate fulfills the eligibility criteria for admission to the M. Tech. course. The candidate has to submit duly attested copies of the following certificates at the time of attending the counseling:

- a) Proof of Age (Matriculation/ Xth class certificate)
- b) 10+2 certificate
- c) B.A./B.Sc./B.E./B. Tech./MCA/M. Sc. or equivalent certificate

- d) Category certificate i.e. SC/ST/IRDP/Antodaya, if applicable
- e) Single girl child affidavit, if applicable
- f) Certificates supporting In-service candidature, if applicable.

It will be the entire responsibility of the candidate(s) to submit the application form complete in all respects within the stipulated date and time. All disputes are subject to legal jurisdiction of courts in Shimla only.

#### **IMPORTANT DATES:**

#### (A) Application Form Submission:

Last date for the receipt of application forms in the office of the Chairman of the Department:

Date	Day		
04-09-2015	Friday	(	

#### (B) Date of Entrance Test:

Date	Day	Time
22-09-2015	Tuesday	2:00 PM to 5:00 PM

#### (C) Date of Declaration of Result:

Date	Day
12-10-2015	Monday

#### Note:

- i) The candidates shall be called for Counseling/Admissions in order of merit in the ratio 1:3 i.e. three times the number of available seats.
- ii) The result of the entrance examination and list of candidates called for interview will be available on the website of the department (http://hpucs.ac.in/). No separate counseling letter will be issued /sent to the candidates.
- iii) The counseling for the applicants for admission to M. Tech. course shall be held in the Department as per the following schedule:

Date of Interview/	Day	Time for reporting for interview the office of the Department	
Admission		From	То
16-10-2015	Friday	10:00 AM	2:00 PM

iv) The last date for admission with the permission of Vice-Chancellor, i.e. the deadline for closing admission, even if some seats remain vacant:

Date	Day	
19-10-2015	Monday	

#### (D) Teaching / Vacations Schedule:

The following schedule shall be followed for the academics in the M.Tech.(CS)courses for the session 2015-2016 in the Department of Computer Science, H.P. University, Shimla:

Reg	ular			
Teaching				
(i)	I / III Semester	20-10-2015	31-12-2015	
		20-02-2016	15-03-2016	
(ii)	II/IV Semester	01-04-2016	19-06-2016	
		26-06-2016	onwards	
	ation edule			
(i)	Winter Vacation	01-01-2016	19-02-2016	
(ii)	Summer Vacation	20-06-2016	25-06-2016	

#### **Important Phone Numbers**

Designation	Phone No.
Vice-Chancellor Office	2831363
Dean of Studies	2830922
Dean Student Welfare	2830926
Chairman, Computer Science Department	2832569
Registrar	2830912
Chief Warden	2830917
Chief Security Officer	2831270

#### **Website Address**

•http://hpucs.ac.in/

•http://hpuniv.nic.in/

#### S. No. \_\_\_\_\_\_LAST DATE FOR THE RECEIPT OF APPLICATION FORM: 04-09-2015(Friday)

#### Department of Computer Science, H.P. University, Shimla - 171005 APPLICATION FORM FOR M. TECH. (COMPUTER SCIENCE) ENTRANCE TEST 2015-2017

1.	Name:					Affix your	
•	CAPITAL LETTERS					duly attested	
2.	Father's Name: recent						
3.	Mother's Name: passport size						
4.	Date of Birth:					photograph here	
5.	Nationality: 6. Sex:						
7.	Qualifying from H *If any other univ		•		HPU	NHPU	
8.	Are you bonafide r	esident of Himac	hal Prade	sh (Tick one	YES	NO	
9.	Indicate only one r			,	· I I		n box:
	(1)Scheduled Cast	•	•				
	*If any other categ			-			
10.	Are you the only c	• •		•	e):		
11.	Are you applying a		_		YES	NO	
	(Attach relevant do			,	YES	NO	
12.	Whether qualified	(Tick one of thes	se):	ET SLI	ET G	ATE None	,
13.	Academic Qualific	eations:					
Examina	tion passed	Name of	Year	Marks	Maximum	%Marks*	Exam*
		Board/ University		Obtained	Marks		
	equivalent						
2 or Equ							
s.A./B.So r Equiva	c./B.COM./B.C.A/						
	ech. /MCA/M. Sc.						
r Equiva							
<b>Note</b> : * C 14.	Correct up to two decided Were you ever disease.  Attending class	squalified/ suspe	ended by	the Univers	ity or any oth	er Institution 1	from
15.	Address for Corr	espondence (IN	CAPITAI	L LETTERS)	):		
	Telephone No.	Mobile	e No.:		Email ID:		
	Telephone No Mobile No.: E  16. Permanent Home Address (IN CAPITAL LETTERS):						
16.	1 01111011101110 1101110 1						
16.				Tel	ephone No.:		
16. 17.	Application Fee De	etails:		Tel	ephone No.:		-
			gory) or R				

#### **Declaration by the Applicant and Father/ Guardian**

		•	s is found to be incorrect, my					
	$\Box$ I undertake to abide by the rules a							
		1 1 1 0 1 77 1						
	☐ I hold myself responsible for payr	$\Box$ I undertake to abide by the rules and regulations of the University.						
	☐ I hold myself responsible for payment of University dues on dates according to the schedule.							
	☐ I shall fulfill the attendance requirements as per the requirements of the university norms							
	failing which I shall have no claim to sit in the examinations.							
	☐ I understand that merely appearing in the entrance exam does not entitle me for the right to							
	admission unless I fulfill the eligibility criteria for admission to the M. Tech. course.							
	☐ I declare that if I am found to have been involved in the act/s of ragging /indiscipline							
	/misconduct during my studies at the Institution / Hostels / any Premises of the University, I							
	may be dealt with as per provision of statute 23.A and recommendations of the Committee							
	constituted by the Hon'ble Supreme Court of India in SLP.No.24295 of 2006 (Raghvan's							
	Committee Report)							
Γ	Date: Signature of Fa	than/Mathan/Cyandian	0.1.11					
	Jaic. Signature of Ta	ther/Mother/Guardian	Signature of Applicant					
		For Office Use Only	Signature of Applicant					
			3. Centre Assigned:					
		For Office Use Only 2. Roll Number Assigned:						
	1. Diary Number:	For Office Use Only 2. Roll Number Assigned:	3. Centre Assigned: 6. Age within Age/ Overage					
	1. Diary Number: 4: Category:	For Office Use Only 2. Roll Number Assigned: 5. Internal/Open:	3. Centre Assigned: 6. Age within Age/ Overage					
	<ol> <li>Diary Number:</li> <li>Category:</li> <li>H.P. Bonafide: Yes/No</li> </ol>	For Office Use Only 2. Roll Number Assigned: 5. Internal/Open: 8.Marks in Qual. Exam (%):	3. Centre Assigned: 6. Age within Age/ Overage					
	<ol> <li>Diary Number:</li> <li>Category:</li> <li>H.P. Bonafide: Yes/No</li> <li>Eligibility: Eligible/Ineligible</li> </ol>	For Office Use Only 2. Roll Number Assigned: 5. Internal/Open: 8.Marks in Qual. Exam (%):	3. Centre Assigned: 6. Age within Age/ Overage					
	<ol> <li>Diary Number:</li> <li>Category:</li> <li>H.P. Bonafide: Yes/No</li> <li>Eligibility: Eligible/Ineligible</li> </ol>	For Office Use Only 2. Roll Number Assigned: 5. Internal/Open: 8.Marks in Qual. Exam (%): 10. Single Girl Child: Yes/N	3. Centre Assigned: 6. Age within Age/ Overage					
	<ol> <li>Diary Number:</li> <li>Category:</li> <li>H.P. Bonafide: Yes/No</li> <li>Eligibility: Eligible/Ineligible</li> </ol>	For Office Use Only 2. Roll Number Assigned: 5. Internal/Open: 8.Marks in Qual. Exam (%): 10. Single Girl Child: Yes/N	3. Centre Assigned: 6. Age within Age/ Overage					

# NOTE: Please read carefully the following instructions and the eligibility conditions before filling up the applications form.

#### **INSTRUCTIONS**

- 1. Affix your three latest attested passport size photographs at the appropriate places. (Xeroxed copies of photographs shall not be accepted).
- 2. Fill in the required information in every column accurately. Do not leave any column blank. The information supplied by the candidate especially relating to DATE OF BIRTH, SINGLE GIRL CHILD, IN-SERVICE CANDIDATE, CATEGORY, DOMICILE, and ACADEMIC QUALIFICATION shall be treated as final and no change shall be allowed to be made in this regard at a later stage. The applications shall be scrutinized strictly according to the information supplied by the candidate and the responsibility with regard to the accuracy of the information shall lie with the candidate himself/herself supplying the marks of qualifying examination required for admission shall be the responsibility of the candidate.
- 3. The completed application form accompanied admit card, identification sheet should be sent to: The Chairman, Computer Science Department, Himachal Pradesh University, Summer Hill Shimla (H.P.) 171005. The original certificates and testimonials shall be seen only at the time of interview for admission.
- 4. Enclose one self addressed white envelop of size 10.5cm X 24 cm with postal stamps of Rs.6.00 on the envelop along with the application form.

# Department of Computer Science Himachal Pradesh University, Summer Hill, Shimla - 171005 ADMIT CARD FOR M. Tech. (CS) ENTRANCE TEST 2015-17

#### **ENTRANCE TEST 2015-17**

(To be filled in by the candidates) Date of Entrance Test: 22 -09-2015

Time: 2:00 To 5:00 PM

Candidate's Name:	
Father's Name:	
Specimen Signature:	
Exam Centre:	
Roll No.:(To be assigned by the Office)	

7

Affix your

duly

attested

recent passport size photograph

(Signature) Chairman

#### **INSTRUCTIONS for Admit Card**

- 1. If a candidate fails to receive the roll number five days prior to the holding of the entrance test, he/she himself/ herself should enquire from the Department of Computer Science about his/ her eligibility etc. LATEST BY FOUR DAYS BEFORE THE COMMECEMENT OF THE TEST. No enquiry shall be entertained after this period.
- 2. This roll number is only provisional and does not ensure admission/ eligibility in the M. Tech.(CS) course.
- 3. The candidate is required to confirm his/ her result from the department, if he/ she is unable to locate the result from the department's website.
- 4. In the absence of requisite postal stamps on the self addressed envelop, the admit card shall not be sent to the candidate.
- 5. Answers must be marked in blue/ black pen with blue/ black ink. Ink of any other colour is not permitted

- 1

#### **Department of Computer Science** Himachal Pradesh University, Summer Hill, Shimla - 171005 M. Tech. (CS) ENTRANCE TEST 2015-2017

#### **Identification Sheet** (To be filled in by the candidates)

		d in by the candidates)  Affix your duly attested
1.	Name of the Candidate:(IN CAPITAL LETTRS)	
2.	Father's Name:	
3.	Specimen Signature of the candidate:	
	(FOR O	FFICE USE ONLY)
4.	Entrance Test Roll No.:	6. Centre:
(Sign	nature of the Candidate during test)	(Signature of the Invigilator)



#### **KULGEET---- THE UNIVERSITY ANTHEM**

Adorned with the holy Veda Mantras
The abode of the gods nestles the novel Nalanda
Himachal University
The jewel of myriad learning
Victory to you!

The land where deities abide, a hundred pilgrimages invite The land of mountain culture where dance and song entice The land where the Ravi-Vipasha-Chandrabhaga and Sutlej weave a garland bright.

Rishi Mandavya's sacred land, is alive with learning and purity Himachal University The jewel of myriad learning Victory to you!

> As far as the eyes can behold, the glorious Dhauladhars unfold The radiant rays of knowledge light up every hill and valley As the feet sway to the Nati and lips sing the Chamba songs The Godess Sharada herself appears in incarnate from

Fearless with the mantra of Shastre cha Shastrey Kaushalam Himachal University The jewel of myriad learning victory to you!

The ascetic deodar trees stand with equanimity
Reminiscent of the Buddha in their calm tranquility
The offer ceaselessly, missives of sweet amity
Himachal's supreme dignity, the seat of erudition—
Of Art and Science, Technology and Ability

Marching steadily on, like the risen sun of dawn Himachal University The jewel of myriad learning Victory to you!