

# Information Brochure

## Master of Computer Applications (MCA-2020)

Batch 2020-2023

### 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*

पवित्रित वेदमंत्रो से मनोरम देवभूमि—निलय  
विराजे नवल नालन्दा उन्हीं की छाँव में मधुमय  
हिमाचल विश्वविद्यालय  
विविध विद्यालय, जय जय !!

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

धरा माण्डव्य ऋषि की परम पावन, ज्ञानमय—चिन्मय  
हिमाचल विश्वविद्यालय  
विविधविद्यालय, जय जय !!

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

लिये 'शास्त्रे च शस्त्रे कौशलम्' का मंत्र जो निर्भय  
हिमाचल विश्वविद्यालय  
विविधविद्यालय, जय जय !!

तपोरत देवदारु खड़े तथागत—सदृश हैं लगते  
सुभग सन्देश 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 विश्वविद्यालय  
विविधविद्यालय, जय जय !!

From the Desk of Vice-Chancellor



आचार्य सिकन्दर कुमार  
कुलपति

हिमाचल प्रदेश विश्वविद्यालय  
राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद् द्वारा प्रत्यायित "ए" ग्रेड विश्वविद्यालय  
ज्ञान पथ, समरहिल, शिमला- 5



### सदेश

मुझे यह जानकर अत्यन्त प्रसन्नता हो रही है कि हिमाचल प्रदेश विश्वविद्यालय के कम्प्यूटर विज्ञान विभाग द्वारा शैक्षणिक सत्र 2020-21 के लिए छंटनी परीक्षा के माध्यम से एन.सी.ए. प्रवेश प्रक्रिया आरम्भ करने के लिए विवरणिका तैयार की जा रही है।

इस विश्वविद्यालय ने अपने अस्तित्व के लगभग 50-वर्षों के इतिहास में शिक्षा के प्रचार-प्रसार में कई कीर्तिमान स्थापित किए हैं तथा यह विश्वविद्यालय पूरे प्रदेश का केवल एक मात्र सम्बद्धता प्रदान करने के अतिरिक्त अकेला सह-आवासीय उच्च शिक्षा का प्रगतिशील केन्द्र भी है। उच्चतर शिक्षा की चुनौतियों एवं नई संभावनाओं को मध्यनजर रखते हुए इसे अधिक आकर्षक बनाने हेतु प्रतिस्पर्धात्मक परीक्षाओं में बेहतर प्रदर्शन हेतु अधिक ध्यान दिया जाना चाहिए। इस विश्वविद्यालय का उपयुक्त वातावरण उच्चतर शिक्षा ग्रहण करने के लिए अति अनुकूल है।

मैं हिमाचल प्रदेश विश्वविद्यालय में शिक्षा ग्रहण करने के लिए आने वाले सभी छात्र-छात्राओं को अपनी हार्दिक शुभकामनायें प्रेषित करता हूँ तथा उनके उज्वल भविष्य की कामना करता हूँ। इसके अतिरिक्त मैं सभी छात्र-छात्राओं से अपेक्षा करता हूँ कि आप सभी कोविड-19 "कोरोना वायरस" महामारी के संक्रमण से सुरक्षित रहें।

  
(सिकन्दर कुमार)

From the Desk of Chairman



It gives me immense pleasure in welcoming you to the Computer Science Department of Himachal Pradesh University. Knowledge always helps you to reach your destination provided you know what your destination is. The aim of the department is to provide high quality education along with training the students with all the new advancements in the computers field.

Amongst healthy environment and extremely skilled young dynamic faculty and staff I greet you to the 31<sup>st</sup> batch of Masters of Computer Application (MCA) in the computer science department of the NAAC accredited A Grade University. The strategic commitment provides the road map of the long journey. The strategies include the Vision, Aim and Motto that would be instrumental in providing students the top career opportunities of the world. The ultimate aim is to provide the students with an educational training that emphasizes innovation, social awareness and professional ethics while promoting the spirit of creativity amongst our researchers.

Application of many innovative methods makes the department better than the best among these some of the ideas being applied are that theoretical concepts are performed practically, availability of latest technological environment, enhancing the creativity ability of the students and many more.

In an increasingly interconnected world, we are proud to be preparing dynamic software professionals, who make a difference, with the skills to contribute to the workforce of tomorrow. From our outstanding faculty and staff to our diverse and capable students to our distinguished alumni, we are proud of our contributions.

(Prof. Aman Kumar Sharma)

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**ENTRANCE TEST FOR MASTER OF COMPUTER APPLICATIONS (MCA)  
BATCH 2020-2023**

For the admission to Department of Computer Science, H P University Shimla, Regional Centre Dharamshala, K.L.B. D.A.V Girls College, Palampur affiliated to H.P. University, Shimla.

**ADMISSION SCHEDULE**

**(A) Last Date**

Last date for the submission of online application form is:

**30<sup>th</sup> May 2020 (Saturday)**

**(B) Date of downloading Admit Card**

Due to COVID ó 19 pandemic outbreak the date will be notified later on the website. Visit the University website and departmental website regularly for latest updates.

**(C) Date of Entrance Test**

Due to COVID ó 19 pandemic outbreak the date will be notified later on the website. Visit the University website and departmental website regularly for latest updates.

**(D) Date of Declaration of Result**

Due to COVID ó 19 pandemic outbreak the date will be notified later on the website. Visit the University website and departmental website regularly for latest updates.

**(E) The schedule for counselling to Subsidized Seats for Department of Computer Science, H.P. University, Shimla Campus:**

Due to COVID ó 19 pandemic outbreak the dates will be notified later on the website. Visit the University website and departmental website regularly for latest updates.

**Note**

- i) The candidates will be called for **counseling** in order of merit in the ratio 1:3 times of vacant seats.
- ii) The applicants called for interview shall be clearly mentioned in the merit list displayed on the website <http://hpucs.ac.in> or <http://hpuniv.nic.in> and notice board of the Department. No separate intimation in this regard shall be sent to the candidates.
- iii) Last date for Admission against the vacant / vacated Seats (if any)  
Due to COVID ó 19 pandemic outbreak the date will be notified later on the website. Visit the University website and departmental website regularly for latest updates.
- iv) Admission with the permission of the Vice-Chancellor, the deadline for closing admission even, if seat remain vacant for MCA course (for both subsidized and non-subsidized).

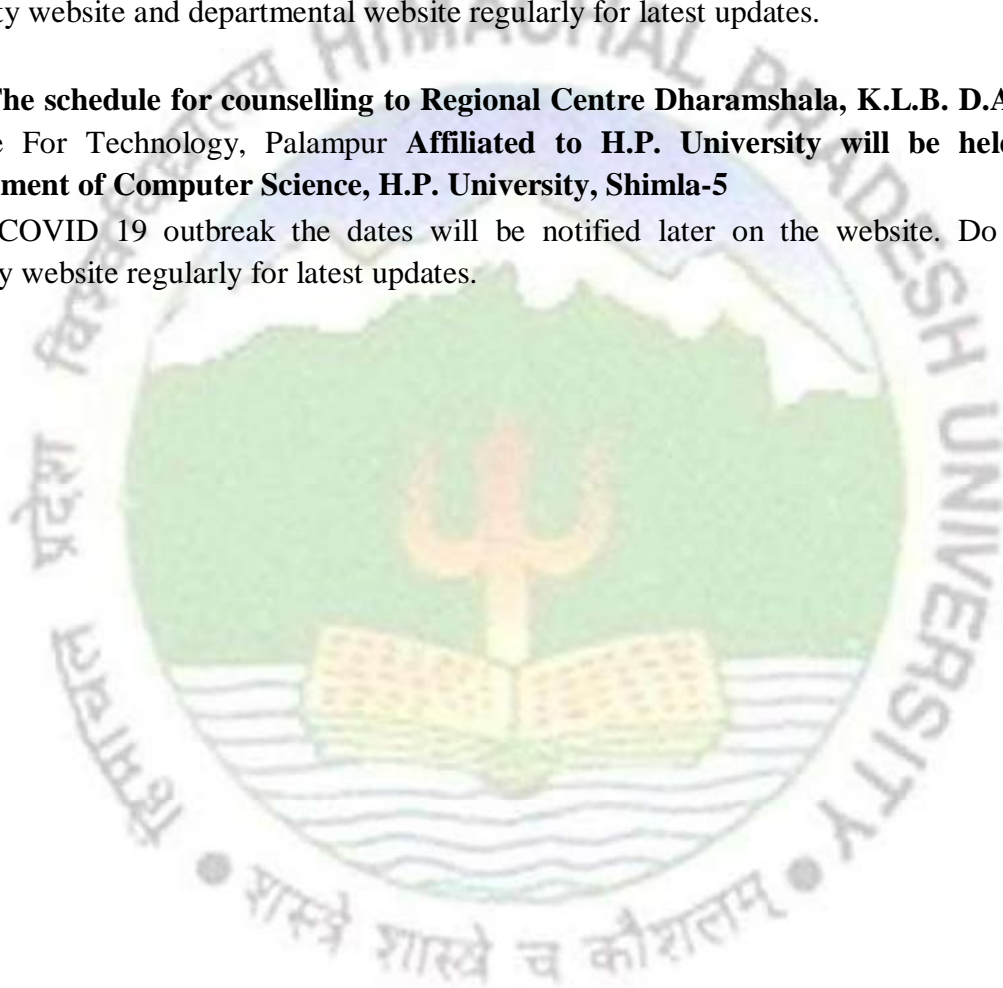
Due to COVID 6 19 pandemic outbreak the date will be notified later on the website. Visit the University website and departmental website regularly for latest updates.

**(F) The schedule for counselling to Non-Subsidized Seats for Department of Computer Science, H.P. University, Shimla Campus:**

Due to COVID 6 19 pandemic outbreak the dates will be notified later on the website. Visit the University website and departmental website regularly for latest updates.

**(G) The schedule for counselling to Regional Centre Dharamshala, K.L.B. D.A.V. Girls College For Technology, Palampur Affiliated to H.P. University will be held in the Department of Computer Science, H.P. University, Shimla-5**

Due to COVID 19 outbreak the dates will be notified later on the website. Do visit the university website regularly for latest updates.



## **Instructions for Filling the Online Application Form**

**(Read the instructions/ Pre-requisite carefully before filling the application form)**

(A) Before proceeding to apply, please ensure that you have:

**1- Scanned copy of applicant's recent photograph with following specification.**

Photograph must be a passport size color picture.

Photograph must be taken in full face view directly facing the camera.

Photograph should have no shadows and red eyes.

Maximum size 100KB.

Photo format should be jpg/jpeg only.

**2- Scanned copy of applicant's signature with following specifications.**

Applicant should sign with black ink on a white paper and get the signature scanned.

Signature must be signed only by the applicant and not by any other person.

Maximum size 100 KB.

Scanned signature format should be jpg/jpeg only.

**3- Scanned copy of applicant's Father/Mother signature with following specifications.**

Applicant's Father/Mother should sign with black ink on a white paper and get the signature scanned.

Signature must be signed only by the applicant's Father/Mother and not by any other person.

Maximum size 100 KB.

Scanned signature format should be jpg/jpeg only.

**4- Upload documents with following specifications.**

Applicant should upload only one document (mark sheet/certificate) black ink on a white paper and get the signature scanned.

The signature must be signed only by the applicant and not by any other person.

Maximum size 2 MB pdf.

Scanned signature format should be jpg/jpeg only.



**5- Create an email account if you already don't have one.**

**6- You must give a mobile number in basic details. If you don't have mobile number, Please enter your guardian's mobile number for any further correspondence in this regard.**

**7- All mandatory fields are marked with red star.**

(B) Instructions for filling the ONLINE APPLICATION FORM

1. Click on 'PG/UG/Ph.D./Certificate Diploma' to access the list of programs.
2. Choose the program and click on the program name.
3. Online Entrance Application form has following subsequent information
  - a) Personal Information
  - b) Education and Document Details
  - c) Application Summary
  - d) Payment
  - e) Submit Reference number and application form
4. Please fill the personal information first.
5. After filling the personal information click on save button at the last of the page.
6. System will generate the unique Registration number along with password. Applicants are advised to note the same.
7. The unique Registration number along with password will be sent on the email and the entered mobile number. Note down the Registration number for all future references.
8. After that you can continue and fill other required information or logout and login again with unique Registration number along with password.
9. After that Click on 'PG/UG/Ph.D./Certificate Diploma' and click on 'Click here for Student Login'
10. Login with unique Registration number along with password and you will get all the earlier submitted information in personal information page.
11. Applicants are required to fill all information required in different sections like Education and Documents details.
12. Fill Education and document detail and upload related documents. Photo and signature uploaded should be as per specifications, kindly refer to section (A) at the starting of the document.
13. To save the data please click on 'Continue and Save' button at the bottom of each screen.
14. Step for making Application Fees Payment, you can pay the fees through online mode or by choosing Challan mode.

#### **Payment through Challan**

- a) If you select payment through **challan option**, you have to select bank and click on generate challan. After that you have to download the Challan and submit the same to the selected bank. Bank will give a reference number against the challan.
- b) Login again and submit your reference number under submit **reference number and application form** tab.

### Online Payment

- If you select online payment mode, click on make payment
- On the next page select your payment gateway
- Click on continue for payment
- Choose among the given options (debit card, credit card, net banking etc.)
- If the payment is successfully done, you will receive a success message with all the details
- Click on the Submit button to get the form finally submitted.

**Note: Before proceeding further please make sure that all the fields are filled in correctly in the confirmation screen before clicking the submit button.**

All the applicants are advised to read the Prospectus/ Information Brochure of Computer Science Department, H.P. University, Shimla 171005 in pdf format available on <http://hpucs.ac.in> or <http://hpuniv.ac.in>, carefully and also ensure their eligibility in terms of the conditions/provisions mentioned in the information brochure.

Please read these instructions carefully before proceeding with the ONLINE filling of MCA Entrance Application Form 2020.

### ELIGIBILITY

Bachelor's degree in any discipline with at least 50% marks (45% in case of SC/ST) from a University established by law in India, with Mathematics at +2 level

**OR**

BCA/ B. Sc. (IT)/ B. Sc. (Computer Science)/ B.Sc. Physical Science(Computer Science)/ B.A. with Computer Science/ B.Sc. Honours with Computer Science or any graduate with computers as one of the subject in all the three years of graduation with at least 50% marks (45% in case of SC/ST) from a University established by law in India.

### Age Limit:

Maximum age limit for admission to MCA course is **26 years for general category, 29 years for SC/ST category and 28 years for girl candidates**, as on the 1<sup>st</sup> July of the year concerned. The Vice-Chancellor may permit age relaxation up to a maximum of six months.

### MCA Entrance Exam Fee

Rs.1000/- for general category and Rs.500/- for SC/ST/IRDP/ANTODAYA

### STUDENT INTAKE - Total seats

Subsidized seats: 30 + 02 + 02 (Supernumerary 02 seats Reserved for single Child who is a girl+ Supernumerary 02 seats Reserved for J&K migrants)

Non-Subsidized seats: 90 + 03 (Supernumerary 03 seats for Wards of H.P. University Employee)

Total seats in MCA Course: 120 + 02 + 02 + 03 = 127

Few Supernumerary seats for foreign National who apply through ICCR are also available as per H.P. University Rules.

## RESERVATION FOR MCA

### I). Subsidized Seats

(a) (i) 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.

(ii) 5% of the seats shall be reserved for Persons with Disabilities candidates who are Himachal Pradesh Domicile

(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.

#### 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. 451/2015HPU(Acad) dated 25 July 2015.

(c) Two supernumerary seats shall be reserved for Himachali bonafide only single child who is a girl. In this respect, an affidavit issued by a competent authority in original shall have to be submitted by the candidate at the time of counseling.

(d) Two supernumerary seats shall be reserved for the students of the state of Jammu and Kashmir Migrants.

(e) Few Supernumerary seats for foreign National who apply through ICCR are also available as per H.P. University Rules.

#### Roster Scheme

**120 points roster for the admission shall be applicable for SC / ST / PwD categories**

**Total Seats 30 + 02 + 02**

**II). Non-Subsidized seats:**

(i) The eligibility for admission to the Courses against these seats will be the same as provided for other candidates.

(ii) The admission to these seats will be made on the merit of marks obtained in the Entrance Test.

(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) Three supernumerary seats shall be reserved for wards of H.P. University Employee.

**Roster Scheme**

**120 points roster for the admission shall be applicable for SC / ST categories**

**Total Seats 90 + 03 (Supernumerary)**

**FEES TO BE PAID**

**Subsidized and Non-Subsidized (Both) Seats:**

As per University rules, the tentative detail of **Annual fees** to be charged from the MCA students every **July** of the year concerned.

Subsidized Fee			Non Subsidized Fee	Mode of Payment
Year	Boys (in Rs.)	Girls (in Rs.)	Boys / Girls (in Rs.)	
1 <sup>st</sup> Year	9130	6730	9130	<b>Online</b>
2 <sup>nd</sup> Year	8380	5980	8380	
3 <sup>rd</sup> Year	8380	5980	8380	

In addition to above, following dues also are to be deposited by the students which areas under:

Under Subsidized Seat		Under Non Subsidized Seat	Mode of payment
Year	Boys / Girls (in Rs.)	Boys / Girls (in Rs.)	
1 <sup>st</sup> Year	3,000	53,000	<b>Online</b>
2 <sup>nd</sup> Year	3,000	53,000	
3 <sup>rd</sup> Year	3,000	53,000	

### Withdrawal of Seat

If a student chooses to withdraw from the program of study in which he/she is enrolled, the department shall follow the following five tier system for the refund of fees remitted by the student.

Sr. No.	Percentage of Refund of Aggregate fees*	Point of time when notice of withdrawal of admission is served to HEI
1	100 %	15 days before the formally notified last date of admission
2	90%	Less than 15 days before the formally notified last date of admission
3	80 %	Not more than 15 days after the formally notified last date of admission
4	50 %	More than 15 days but less than 30 days after formally notified last date of admission
5	0%	More than 30 days after formally notified last date of admission

\*(Inclusive of course fees and non-tuition fees but exclusive of caution money and security deposit)

In case of 1. In the table above, the HEI concerned shall deduct an amount not more than 10% of the aggregate fees as processing charges from the refundable amount.

### Basis of Admission

The admission to MCA course will be made on the basis of merit of the Entrance Examination (written test) conducted by H.P. University.

The written test will consist of one paper of 130 marks and of 2 hours duration and shall include the following four sections:

Section	Contents	Marks
A	General logical ability & aptitude	40
B	Mathematics of +2 level	50
C	Basics of Computers and its Awareness	25
D	General English	15
	<b>Total</b>	<b>130</b>

The minimum qualifying marks in the Entrance Examination (written test) for subsidized as well as non-subsidized seats will be 35% i.e. 46 marks out of total of 130 marks & no minimum qualifying marks limit in case of SC/ST.

### CENTRES FOR THE ENTRANCE TEST

The Entrance Test for admission to the MCA course shall be held at the following centres:

- H.P. University Campus, Summer Hill, Shimla
- Government College, Mandi
- Government College, Hamirpur
- H.P. University Regional Centre, Dharamshala, Kangra

The University reserves the right to allot any examination centre to the candidate irrespective of the choice given by the candidate.

**Important Dates:**

1. Online filling up of MCA Entrance Application form commences from: **04.05.2020**
  2. Last date for filling up the ONLINE MCA Entrance Application Form: **30.05.2020**
  3. Print out of the hard copy of MCA Entrance Application Form should be kept by the applicant for future reference. In case the applicant is called for counseling the copy of the MCA Entrance Application Form is to be submitted in the department.
  4. Admit Cards may be downloaded from <http://hpucs.ac.in> or <http://hpuniv.nic.in>.
- The dates for download of admit card will be notified later on due to COVID-19.
5. Date for Entrance Tests will be notified later on due to COVID-19.

**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 MCA course. The candidate has to submit duly attested copies of the following certificates at the time of attending the counselling / interview:

- a) Proof of Age (Matriculation/ 10<sup>th</sup> class certificate)
- b) 10+2 certificate
- c) Graduation certificate having certificates of all semesters/ years.
- d) Category certificate i.e. SC/ST/IPDP/Antodaya, if applicable
- e) Single Girl child affidavit in original, if applicable
- f) H.P. Bonafide certificate in case of SC/ST candidates
- g) Certificate of Physical handicapped, if applicable.

It will be the entire responsibility of the candidate(s) to download the prospectus well in time and submit the online application form complete in all respects within the stipulated date and time. The University will not be responsible for any postal delay for non-receipt or in case of misplacement or loss of application form in transit. All disputes are subject to legal jurisdiction of courts in Shimla only.

**HIMACHAL PRADESH UNIVERSITY**

The Himachal Pradesh University, named after the state of Himachal Pradesh, was founded on 22<sup>nd</sup> July, 1970. The University is located at Summer Hill, a suburb of Shimla at its western end, at a distance of about 4 km from the main town. The Railway Station of Summer Hill is around 5 minute walking distance from the campus. Summer Hill as a place is well connected through rail, road and air. The airport located at a place called Jubbarhatti is about 20 km from this place. This University is catering to the academics and research needs of students in the areas covering Computer Science, Physical Sciences, Bio-Sciences, Social Sciences, Commerce, Management Studies, Education, Law, Languages, and Performing Arts & Physical Education etc. All the colleges in the territorial jurisdiction of Himachal Pradesh are affiliated to this University.

Besides, this University runs an evening college, especially for the employees of recognized establishments and University College of Business Studies, for running bachelor degree courses in Computer Applications and Business Administration. The Himachal Pradesh University occupies an area of about 200 acres and has a distinctive style of architecture. The artistically designed buildings house various teaching departments, well-equipped laboratories and a huge library. Besides the residential accommodation for the teaching and non-teaching staff, the University has a Faculty House for lodging & boarding distinguished guests and visitors, number of hostels for girls and for boys is available. The University is also managing a Health Center within its campus. The University has a large auditorium with 750 seats for holding important university functions and ceremonies, a good cafeteria, recreational facilities, banking facilities with 24X7 ATM facilities and a cyber café.

## **DEPARTMENT OF COMPUTER SCIENCE**

In order to impart knowledge and training to students in the state-of-the-art and state-of-the-practice computer applications, the Department of Computer Science was established in the year 1987. The vision was to produce professional leaders, in the field of software development and research who shall enhance the technological strength of the region and the country. It is being achieved through the development of the technical as well as theoretical skills of the students through regular conventional and non-conventional teaching modes and through rigorous hands on practical training sessions. The Department provides the facilities suited for the development of skills and the team spirit among the students, inculcated in the given environment through seminars, group discussions, assignments, class tests, quizzes and design & development of dummy as well as real-time projects in the classrooms and laboratories. Keeping with the pace of the industry and R&D requirements so as to cater to the needs of the society, the department has been regularly updating its curricula from time to time. The latest thorough overhauling of all the curricula by the Department was affected as recently as in 2009 and 2010.

At its inception, the department started a **Certificate Course in the Programming (CCP)** along with **Diploma in Computer Applications (DCA)** in the year 1987. Later on, in the year 1992, the DCA was replaced by **Post Graduate Diploma in Computer Applications (PGDCA)**. The year 1990 brought in a new era for computer professionals in the history of the state with the launch of **Master of Computer Applications (MCA)**, a highly professional, Master's Degree programme. This academic/ professional program aims at imparting theoretical and practical training in the area of Computer Science and its applications. MCA is a full time three-year professional course spread over six semesters and also includes a one full semester industrial training. The curricula of MCA program has been designed with the objective of identifying, developing and sharpening of analytical and computational skills of the students. Providing different working platforms as per the ever changing requirements of the industry further enriches the knowledge of the students.

Since 2006, the Department has also started running a full time 2 year **Master of Technology (Computer Science) i.e. M. Tech. (CS)** programme spread over 4 semesters. The course is aimed at, in addition to other objectives, bridging the gap between the academic and professional requirements of the society at large. The curricula for this programmes matches the best in the country and has also been thoroughly updated recently in 2010. The whole of the fourth semester of this programme is dedicated to a dissertation work where each student is required to work on some contemporary research problem related to different areas of computer science, technology or their applications. The emphasis is on surveying the related literature, envisioning the problem domains and suggestions on the solution domains for one more problem domains. The latest and the ultimate feather added to the academic history of the Department was the starting of the **Doctor of Philosophy (Ph.D.)** program in 2007. This programme lays specific emphasis on fulfilling the academic needs of researchers of the region in general and the teaching community in particular. In this programme, the students work on different problems related to the fields of computer science, technology or their applications under the able and expert guidance of the teachers of the Department.

### **Location:**

The Department of Computer Science is housed in the ground floor of Netaji Subhash Chander Bose Bhawan in the main campus of Himachal Pradesh University, Shimla. The area occupied by the Department is approximately 470 square meters.

### ACADEMIC PROGRAMS

The major academic programs currently being run successfully by the department are:

- “ MCA program since 1990
- “ M. Tech. (Computer Science) since 2006
- “ Ph.D. program since 2007.

### FACULTY & OTHER STAFF

The Department has one of the highest qualified faculty members in the region. The following faculty members are involved in various academic and professional activities in the Department, within the campus and outside the campus.

#### Faculty Members

S. No.	Name & Designation	Qualification	Year of Joining	Total Experience (in years)
1	Dr. Aman Kumar Sharma, Professor & Chairman	MCA, Ph.D.	1997	23
2	Dr. Arvind Kalia, Professor	MCA, Ph.D.	1989	31
3	Dr. A.J. Singh, Professor	B. Tech., M. Sc., Ph.D.	1992	28
4	Dr. Manu Sood, Professor	B.E., M. Tech., Ph.D.	1993	27 in academics & 5 in industry
5	Dr. K.L. Bansal, Professor	MCA, Ph.D.	1995	25
6	Dr. Jawahar Thakur, Professor	B. Tech., M. Tech., Ph.D.	1997	23
7	Dr. Anita Ganpati, Professor	MCA, M. Tech. Ph.D.	2001	19

#### Technical staff

Name	Designation	Qualification
Mr. Syed Waji Hassan	Lab. Attendant Grade-II	B.Sc.
Mr. Babu Ram	Lab. Attendant	10+2
Mr. Naresh	Lab. Attendant	10+2

#### Supporting Staff

Name	Designation	Qualification
Mrs. Sarita Sharma (9418644280)	Supdt Gr-II	Master's Degree
Mrs. Pooja Sharma	Clerk	PGDCA, M.A.
Mr. Dile Ram	Peon	-----



## **ACADEMIC FACILITIES**

### **LIBRARY**

The Computer Science Section of the Central Library is well equipped with approximately 4500 text and reference books on different topics pertaining to courses curricula and related subjects. The library also subscribes to 07 numbers of national & International Journals of repute in the field of computer science and applications. In addition to this central library, a library has also been established in the department that caters to the specific needs of the students of the department. This library contains approximately 500 books on various subjects of interest.

### **COMPUTER LABORATORY**

To provide a rich hands-on experience to the students, three numbers of state-of-the art computer laboratories housing around 100 computers have been established. All the latest software and different platforms are being provided to the students for hands-on practice in order to ensure good openings for them in the industry as well as in other sectors. The Labs have high speed LAN connected nodes & servers, internet connection through the Campus-wide Optical Fiber Wide Area Network & latest software as per the need of the syllabi of various courses being run. The facilities (hardware, software etc.) in all the labs are upgraded regularly in order to match the needs of the industry.

### **LECTURE HALLS**

The lecture halls are well equipped with latest communication and multi-media equipment such as overhead LCD Projectors, Internet access points and provision for power backups.

### **COUNSELLING**

The counselling shall be held in the H.P. University campus for admission to the MCA course 2020. The candidates are required to check the website of the Department [www.hpucs.ac.in](http://www.hpucs.ac.in) or <http://hpuniv.nic.in> for the results, merit list and counselling schedules. No separate result cards and intimation regarding counselling shall be sent to the candidates. The counselling shall be held strictly as per the duly published counselling schedule posted on the website. The candidate has to attend the counselling in person along with all the original testimonials such as Date of Birth (DOB) proof, 10+2, graduation, bonafide resident, proof of only child who is a girl, proof of category etc.

**In case the candidate does not attend the counselling as per the schedule, his/her candidature for MCA seat automatically stands cancelled.**

### **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, provided that the Vice-Chancellor shall have the power to permit age relaxation for reasons to be recorded in writing up to a maximum of 6 months. Provided further that age bar shall not apply in the case of in-service students and the State Govt. / Govt. of India nominees. 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.

### **DURATION OF THE COURSE: 3 Years (6 Semesters)**

Dress code for students of Department of Computer Science is to be followed.

### **SCHEME OF EXAMINATION IN MCA**

English shall be the medium of instruction and examination. The pass marks shall be 40% in each written paper and in the internal assessment separately, and 40% in viva-voce, project work and semester course and 50% in the aggregate subject to the conditions that aggregate shall be determined at the end of the examination. Other rules shall be as per the rules of the university.

#### **a) Theory Papers**

Each paper will be of 100 marks (75 marks for theory exam and 25 marks for internal assessment) and duration of each paper will be 3 hours. 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 at least 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.

#### **b) Practical Examination**

**Max. Marks:** 100 (50 marks for practical and 50 marks for internal assessment).

**Duration:** 3 hours.

**Conduct:** Practical exam will be conducted by the external examiner from the panel proposed by the Chairman, Department of Computer Science, Himachal Pradesh University, Shimla and duly approved by the concerned authorities of the Himachal Pradesh University, Shimla.

#### **c) Project Work:**

In 3<sup>rd</sup> year (sixth semester) the student has to develop one project, which will be evaluated by the external examiner from the panel submitted by Chairman, Department of Computer Science, Himachal Pradesh University, and duly approved by the university authority/evaluation branch, Himachal Pradesh University, Shimla on the following basis:

#### **System Development Project**

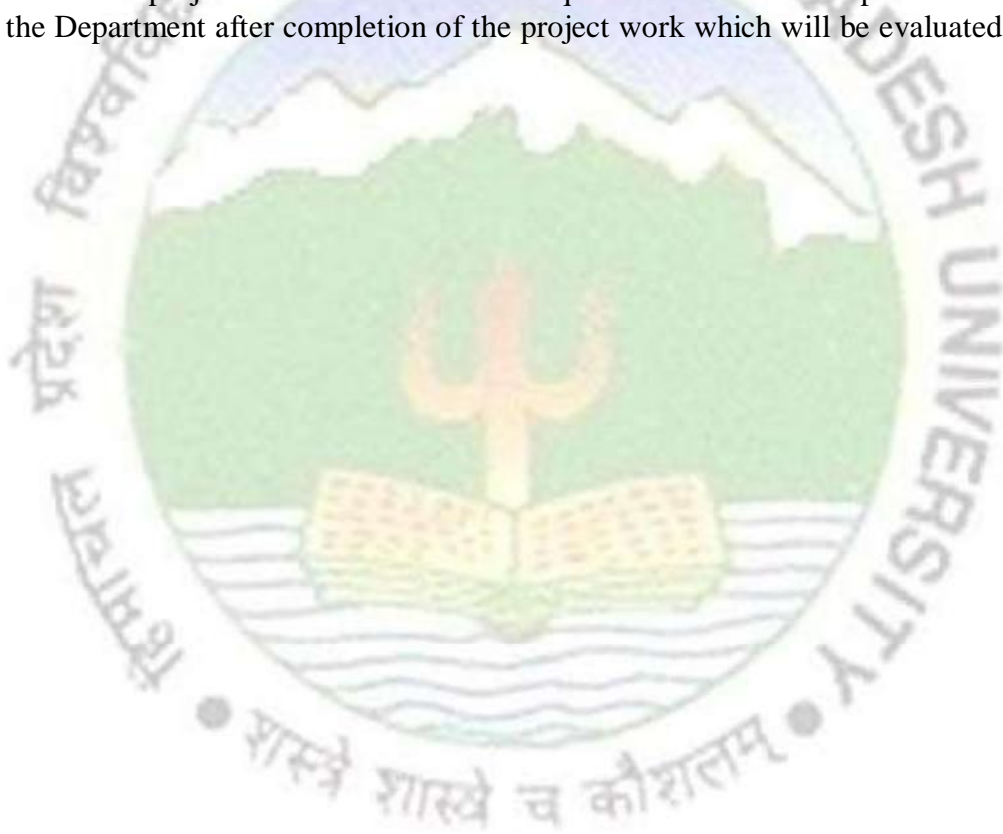
System Design	100 Marks
Log Book and Interim Report	100 Marks
Seminars (2)	100 Marks
Project Report (2 Copies)	200 Marks
Viva-Voce	100 marks
<b>Total</b>	<b>600 Marks</b>

A fee of Rs 500/- shall be charged at the final of submission of Project Report (Project Report submission fee).

In respect of theory papers 25marks in each paper shall be reserved for award of internal assessment based on such work as assignments/practical/periodical tests/quiz etc.

In respect of practical papers, 50 marks shall be reserved for internal assessment in similar manner. The marks awarded by the teacher on account of internal assessment in relation to theory/practical paper as mentioned above shall be submitted to the office of Chairman.

In sixth semester, the Chairman/Head of the Department will assign a guide/supervisor, to each candidate for his / her project work. The candidate shall be required to maintain his/her project diary (logbook) of work in the organization. Each student will be required to give at least two seminars on his / her project work. Each student is required to submit two copies of his / her project reports in the Department after completion of the project work which will be evaluated by external examiner.



**d) Curriculum Schema:**

S. NO.	Course No.	Paper	Lecture Hrs/ week	Tutorial Hrs/ week	Univ. Exam Marks	Internal Assessment
<b>First Year</b>						
<b>Semester 1</b>						
1.	MCA-101	Programming Methodologies Using C	3	1	75	25
2.	MCA-102	Digital Organization	3	1	75	25
3.	MCA- 03	Introduction to Organizational Structure & Personnel Management	3	1	75	25
4.	MCA-104	PC Packages	3	1	75	25
5.	MCA-105	Effective Communication Skills	3	1	75	25
6.	MCA-106	Practical-1 (C-Language)	6	-	50	50
7.	MCA-107	Practical-2 (PC Packages)	6	-	50	50
<b>Semester 2</b>						
1.	MCA-201	Data Structures	3	1	75	25
2.	MCA-202	Computer Architecture	3	1	75	25
3.	MCA-203	Programming in Visual Basic	3	1	75	25
4.	MCA-204	Discrete Mathematics	3	1	75	25
5.	MCA-205	Accounting & Financial Management	3	1	75	25
6.	MCA-206	Practical-3(Data Structure)	6	-	50	50
7.	MCA-207	Practical-4(Visual Basic)	6	-	50	50

S. NO.	Course No.	Paper	Lecture Hrs/ week	Tutorial Hrs/ week	Univ. Exam Marks	Internal Assessment
<b>Second Year</b>						
<b>Semester 3</b>						
1.	MCA-301	Operating System	3	1	75	25
2.	MCA-302	Data Communication & Computer Networks	3	1	75	25
3.	MCA-303	Data Base Management System	3	1	75	25
4.	MCA-304	Software Engineering	3	1	75	25
5.	MCA-305	Object Oriented Programming Using JAVA	3	1	75	25
6.	MCA-306	Practical-5 (DBMS)	6	-	50	50
7.	MCA-307	Practical-6 (JAVA)	6	-	50	50
<b>Semester 4</b>						
1.	MCA-401	Programming Using C#	3	1	75	25
2.	MCA-402	.NET Technology	3	1	75	25
3.	MCA-403	Computer Oriented Optimization Methods	3	1	75	25
4.	MCA-404	Internet Technologies & Web Page Designing	3	1	75	25
5.	MCA-E05	Elective-I	3	1	75	25
6.	MCA-405	Practical 6 7 (C#)	6	-	50	50
7.	MCA-406	Practical 6 8 (Internet Technologies & Web page design)	6	-	50	50

S. NO.	Course No.	Paper	Lecture Hrs/ week	Tutorial Hrs/ week	Univ. Exam Marks	Internal Assessment
<b>Third Year</b>						
<b>Semester 5</b>						
1.	MCA-501	Data Warehouse & Mining	3	1	75	25
2.	MCA-502	Computer Graphics	3	1	75	25
3.	MCA-503	Fundamentals of Computer Algorithms	3	1	75	25
4.	MCA-E04	Elective ó II	3	1	75	25
5.	MCA-E01	Elective ó III	3	1	75	25
6.	MCA-504	Practical-9 (Computer Graphics)	6	-	50	50
7.	MCA-505	Practical-10 (FOCA)	6	-	50	50
<b>Course No.</b>		<b>Paper</b>	<b>Univ. Exam Marks</b>			
<b>Semester 6</b>						
MCA-601		<b>System Development Project</b>				
(a)		System Design	100			
(b)		Log Book and Interim Report	100			
(c)		Seminars (2)	100			
(d)		Project Report (2 Copies)	200			
(e)		Viva-Voce	100			

<b>ELECTIVES</b>		
S. No.	Course	Paper
1.	MCA-E01	Artificial Intelligence & Expert Systems
2.	MCA-E02	Software Quality and Testing
3.	MCA-E03	Automata Theory & Compiler Design
4.	MCA-E04	Cyber Law
5.	MCA-E05	Distributed Data Base Management System
6.	MCA-E06	Management of Software Projects
7.	MCA-E07	Open Source Software
8.	MCA-E08	Image Processing
9.	MCA-E09	Distributed Systems
10.	MCA-E10	Object-Oriented Software Engineering
11.	MCA-E11	Simulation and Modeling

## PLACEMENT CELL

The placement efforts under a faculty member are being done to liaison among the students and perspective employers and to keep a watchful eye on the emerging trends and future needs of the industry. The Multinational/ National Companies have been visiting the department for placements and to impart training to the students since the inception of the course. The on campus interviews are conducted by the companies based on the requirements of their respective firms. Nearly all the students of the department get placed each year.

## OFFICERS OF THE UNIVERSITY

S. N	Name	Designation	Telephone No.
1.	His Excellency Shri. Bandaru Dattatreya	Chancellor	0177-2624152, 53, 54
2.	Prof. Sikander Kumar	Vice-Chancellor	2831463
3.	Prof. Arvind Kalia	Dean of Studies	2830922, 2832922
4.	Prof. Aman Kumar Sharma,	Chairman	2832569
5.	Prof. Kamal Jeet Singh	Dean Student Welfare	2830926
6.	Prof. Nain Singh	Chief Warden	2830917
7.	Sh. Ghanshyam Chand	Registrar	2830914
8.	Sh. Bansi Lal Shukla	Finance Officer	2830913
9.	Dr. J. S. Negi	Controller of Examinations	2830911, 2833551

## TEACHING / EXAMINATION / VACATION SCHEDULE

Due to COVID . 19 pandemic outbreak the schedule will be notified later.

### Attendance:

*In order to be eligible to appear in the University examinations the candidate should have secured at least 75% attendance in each of the concerned courses in theory as well as practical.*

### **Ragging is banned in H.P. University & Affiliated Colleges**

Honorable Supreme Court of India wide its judgment/orders dated 4<sup>th</sup> May 2001, 16<sup>th</sup> May 2007 and 11<sup>th</sup> Feb 2009 have outlined various steps which have been adopted by H.P. University so as to eliminate the ragging.

1. Ragging is banned in H.P. University and anyone indulging in Ragging is likely to be punished appropriately. Which punishment includes imprisonment, fine or both, expulsion from the institution, suspension from the institution or classes for a limited period or fined with apology. The punishment may also take the shape of

- (i) Withholding scholarship or other benefit
  - (ii) Debarring from representation in events
  - (iii) Withholding of results
  - (iv) Suspension or expulsion from hostels or mess or the like
2. In case the student seeking admission is found to have indulged in ragging in the past or if it is noticed later that he has indulged in ragging, admission may be refused or he shall be expelled from the H.P. University.

#### **LIST OF AFFILIATED COLLEGES:**

##### **1. HIMACHAL PRADESH UNIVERSITY REGIONAL CENTRE DHARMSHALA**

**30 Seats + 02 (single girl child seats)** are proposed to be filled at Himachal Pradesh University Regional Centre Dharamshala under self-financing scheme i.e. non-subsidized seats. The fee will be as charged from non-subsidized seats from MCA students as per University rules. The reservation roster of 120 points will be followed.

##### **2. K.L.B. D.A.V GIRLS COLLEGE FOR TECHNOLOGY, PALAMPUR**

#### **INTRODUCTION:**

<b>S. Name</b>	<b>Designation</b>	<b>Qualification</b>
1. Mr. Parvesh Sood	Asso. Professor	M.Sc.IT, M.Phil.
2. Mrs. Shivani Awasthi	Asso. Professor	MCA
3. Mr. Avinav Banyal	Asst. Professor	M\CA
4. Ms. Tanya Chanana	Asst. Professor	M.Sc.IT
5. Mr. Rohit Rana	Asst. Professor	MCA
6 Ms. Omni Thakur	Asst. Professor	MCA
7 Mrs. Anjali Thakur	Asst. Professor	MCA
8. Ms. Simpy Rana	Asst. Professor	MCA
9. Mr. Amit Rana	Asst. Professor	B.Tech

#### **GUEST FACULTY:**

<b>Sr. No</b>	<b>Name</b>	<b>Designation</b>	<b>Qualification</b>
1.	Mr. V.P. Sood	Asst. Professor	M.Sc. Math
2.	Mrs. Bharti Sharma	Asst. Professor	M.A. English, M.Phil.
3.	Mrs. Anjali	Asst. Professor	M.Sc. Math
4.	Mrs. Niharika Kalia	Asst. Professor	MBA





## 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 Goddess Sharada herself appears in incarnate form

Fearless with the mantra of 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  
They 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!