

Handbook of Information

Master of Computer Applications

(MCA-2022)

Batch 2022-2024

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

हिमाचलप्रदेशविश्वविद्यालय - कुलगीत

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
स्वयं 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—सद्गुण 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



HIMACHAL PRADESH UNIVERSITY

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



Prof. S.P. Bansal
Vice-Chancellor

संदेश

मुझे यह जानकर अत्यन्त प्रसन्नता हो रही है कि हिमाचल प्रदेश विश्वविद्यालय के कम्प्यूटर विज्ञान विभाग द्वारा शैक्षणिक सत्र 2022-23 के लिए छंटनी परीक्षा के माध्यम से एम.सी.ए. प्रवेश प्रक्रिया आरम्भ करने के लिए विवरणिका तैयार की जा रही है।

इस विश्वविद्यालय ने अपने अस्तित्व के लगभग 51-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 सम्भावनाओं 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 उज्ज्वल भविष्य की कामना करता हूँ।

(आचार्य सत प्रकाश बंसल)

From the Desk of Chairman



“The sign of someone having the power of Truth is that person will always be fearless”

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. It's exciting to uncover the treasures of technology so you can capitalize on your strengths and broadens your horizons!

Amongst healthy environment and extremely skilled young dynamic faculty and staff I greet you to the 33rd 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.

The pandemic, COVID-19', has given us a great opportunity to realize the importance of computerization and application of Digital Technology. Application of many innovative methods makes the department better than the best among them some of the ideas being applied are theoretical concepts being executed, 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. From our outstanding faculty and staff to our diverse and capable students to our distinguished alumni, we are proud of our contributions.

(Prof. Jawahar Thakur)

CONTENTS

<i>Vision</i>	<i>i</i>
<i>Our Aims</i>	<i>i</i>
<i>Motto</i>	<i>i</i>
<i>Kulgeet</i>	<i>ii</i>
<i>Hon'ble Vice-Chancellor Message</i>	<i>iii</i>
<i>Chairman Message</i>	<i>iv</i>
Entrance Test for MCA	1
Admission Schedule	1
Himachal Pradesh University Introduction	2
Department of Computer Science	3
Academic Programs	4
Basis of Admission to MCA 2 Years	4
Eligibility	5
Student Intake	5
Reservation	6
Fee to be paid	8
Faculty & Other Staff	9
Academic Facilities	10
Counselling	10
Scheme of examination and curriculum	11
Officers of the University	14
Teaching/examination/vacation Schedule	14
List of affiliated colleges	15
Instruction for Filling the Online Application Form	17
University Anthem (Kulgeet)	19

**1. ENTRANCE TEST FOR MASTER OF COMPUTER APPLICATIONS (MCA)
BATCH 2022-2024**

For the admission to Department of Computer Science, H P University Shimla, Regional Centre Dharamshala and K.L.B.D.A.V College for Girls, Palampur affiliated to H.P. University, Shimla-171005.

2. ADMISSION SCHEDULE

(A) Last Date for the submission of online application form is:

Date	Day	Time
07-May-2022	Saturday	05:00 PM

(B) Date of downloading Admit Card begins on:

Date	Day
17-May-2022	Tuesday

(C) Date of Entrance Test:

Date	Day
21-May-2022	Saturday

(D) Date of Declaration of Result:

Date	Day
On or Before 18-June-2022	Saturday

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

Date	Day	Time for reporting for interview in the office of the Department of Computer Science
02- July-2022	Saturday	10:00 AM

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

Date	Day	Time for reporting for interview in the office of the Department of Computer Science
08-July-2022	Friday	10:00 AM

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

Date of Interview/ Admission	Day	Time for reporting	
		From	To
18-July-2022	Monday	10:00 AM	02:00PM
21-July-2022	Thursday	10:00 AM	02:00PM
25-July-2022	Monday	10:00 AM	02:00PM
27-July-2022	Wednesday	10:00 AM	02:00PM

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://hpuniv.nic.in> and notice board of the Department. No separate intimation in this regard shall be sent to the candidates.*
- iii) *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).*

<i>Date</i>	<i>Day</i>
<i>30-July-2022</i>	<i>Saturday</i>

- iv) *The H.P. University reserves the right to admit the candidates on the basis of entrance test or on the basis of merit of the qualifying examination*

3. HIMACHAL PRADESH UNIVERSITY

The Himachal Pradesh University, named after the state of Himachal Pradesh, was founded on 22nd 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, Summer Hills around 5 minute walk 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.

4. 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 2021.

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 now a full time two year professional course spread over four 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 program 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.

5. ACADEMIC PROGRAMS

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

- MCA 3 year program since 1990
- M. Tech. (Computer Science) since 2006
- Ph.D. program since 2007.
- MCA 2 year program since 2021.

6. BASIS OF ADMISSION TO MCA 2 YEARS:

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

Written Test	100 Marks
Duration	1:30 hours

The written test will consist of one paper of 100 marks and of 1:30 hour's duration and shall include the following three sections:

Section	Contents	Marks
A	General logical ability & aptitude	20
B	Mathematics of +2 level	20
C	Computer Awareness	60
Total		100

The minimum qualifying marks in the Entrance Examination (written test) for subsidized as well as non-subsidized seats will be 35% i.e. 35 marks out of total of 100 marks.

Centre for the Entrance Test:

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

- a) H.P. University Campus, Summer Hill, Shimla
- b) Government College, Mandi
- c) Government College, Hamirpur
- d) 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.

9. RESERVATION:

I) Subsidized Seats

(a) 15% and 7.5% of the seats shall be reserved for bonafide Himachali Scheduled Caste and Scheduled Tribe candidates respectively who have passed the qualifying examination from H.P. University or from any other University established by law in India which is equivalent to the qualifying examination of H.P. University. 5% of the seats shall be reserved for Physically Handicapped candidates with a minimum of 40% disability and 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.

(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.

(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.

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

Roster Scheme for Subsidized Seats

120 points roster for the admission shall be applicable for SC / ST / PwD categories [from 61-90]

SN	Type	Number
1	Open to All	05
2	HPU General	17
3	SC	04
4	ST	02
5	PwD	02
6	<i>SGC (Supernumerary)</i>	02
7	<i>J&K Migrant (Supernumerary)</i>	02
8	<i>Economically Weaker Section (EWS) of H.P.</i>	03*
Total Seats		30+04+03*

II) Non-Subsidized seats

(a) 15% and 7.5% of the seats shall be reserved for bonafide Himachali Scheduled Caste and Scheduled Tribe candidates respectively who have passed the qualifying examination from H. P. University or from any other University established by law in India which is equivalent to the qualifying examination of H.P. University. 5% of the seats shall be reserved for Physically Handicapped candidates with a minimum of 40% disability and 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.

(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 Vishwavidyalaya 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.

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

Roster Scheme for Non-Subsidized Seats:

120 points roster for the admission shall be applicable for SC/ST categories [from 61-120 & 1-30]

SN	Type	Number
1	Open to All	16
2	HPU General	49
3	SC	13
4	ST	07
5	PwD	05
6	<i>Wards of H.P. University Employee (Supernumerary)</i>	03
7	<i>Economically Weaker Section (EWS) of H.P.</i>	09*
Total Seats		90+03+09*

10. 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.)	Online
1 st Year	9130	6730	9130	
2 nd 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.)	Online
1 st Year	3,000	53,000	
2 nd 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 Sr.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.

11. 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. Jawahar Thakur, Professor & Chairman	B. Tech., M. Tech., Ph.D.	1997	25
2	Dr. Arvind Kalia, Professor	MCA, Ph.D.	1989	33
3	Dr. A.J. Singh, Professor	B. Tech., M. Sc., Ph.D.	1992	30
4	Dr. Manu Sood, Professor	B.E., M. Tech., Ph.D.	1993	29 in academics & 5 in industry
5	Dr. K.L. Bansal, Professor	MCA, Ph.D.	1995	27
6	Dr. Aman Kumar Sharma, Professor	MCA, Ph.D.	1997	25
7	Dr. Anita Ganpati, Professor	MCA, M. Tech. Ph.D.	2001	21
8	Dr. Sumesh Sood, Associate Professor	MCA, Ph.D.	2020	20
9	Dr. Naveen Kumar Assistant Professor	MCA, Ph.D.	2020	02
10	Dr. Anshul Kalia Assistant Professor	MCA, Ph.D.	2020	07
11	Dr. Yogesh Mohan Assistant Professor	MCA, Ph.D.	2020	20

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 (94186-44280)	Section Officer	Master's Degree
Mrs. Pooja Sharma	Clerk	PGDCA, M.A.
Mr. Shammi	Peon	-----

12. 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.

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.

13. COUNSELLING

The counseling shall be held in the Department of Computer Science, H.P. University for admission to the MCA course 2022. The candidates are required to check the website <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, EWS, PwD along with hard copy of application form etc.

It will be the entire responsibility of the candidate(s) to download the prospectus well in time and 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.

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.

14. SCHEME OF EXAMINATION AND CURRICULUM

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 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 2nd year (Fourth 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 (3+1 Copies)	200 Marks
Viva-Voce	100 marks
Total	600 Marks

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 25 marks 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 fourth 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	Credits	Lecture Hrs/ week	Tutorial Hrs/ week	Univ. Exam Marks	Internal Assessment
First Year							
Semester 1							
1	MCA-101	Programming Methodologies Using C	4	3	1	75	25
2	MCA-102	Data Structures & Algorithm Analysis	4	3	1	75	25
3	MCA-103	Computer Organization & Architecture	4	3	1	75	25
4	MCA-104	Data Communication & Computer Networks	4	3	1	75	25
5	MCA-105	Operating System	4	3	1	75	25
6	MCA-111	Practical-1(C)	2	6		50	50
7	MCA-112	Practical-2 (Data Structures & Algorithm Analysis)	2	6		50	50
Semester 2							
1	MCA-201	Programming with Python	4	3	1	75	25
2	MCA-202	Data Base Management System	4	3	1	75	25
3	MCA-203	Software Engineering	4	3	1	75	25
4	MCA-204	Computer Graphics	4	3	1	75	25
5	MCA-E01	Elective – 1	4	3	1	75	25
6	MCA-211	Practical – 3 (Python)	2	6		50	50
7	MCA-212	Practical – 4 (DBMS)	2	6		50	50

S. No	Course No.	Paper	Credits	Lecture Hrs/week	Tutorial Hrs/week	Univ. Exam Marks	Internal Assessment
Second Year							
Semester 3							
1	MCA-301	Data Mining Using R	4	3	1	75	25
2	MCA-302	Web Technologies	4	3	1	75	25
3	MCA-303	Information Security	4	3	1	75	25
4	MCA-E02	Elective - 2	4	3	1	75	25
5	MCA-E03	Elective - 3	4	3	1	75	25
6	MCA-311	Practical-5 (R)	2	6		50	50
7	MCA-312	Practical-6 (Web Technologies)	2	6		50	50

S. No	Course No.	Paper	Credits	Univ. Exam Marks
Semester – 4				
1	MCA-401	System Development Project		
	(a)	System Design	4	100
	(b)	Log Book and Interim Report	4	100
	(c)	Seminars (2)	4	100
	(d)	Project Report (3+1 Copies)	6	200
	(e)	Viva-Voce	6	100

ELECTIVES

S.No.	Course	Paper
1.	MCA-E01	Theory of Computation
2.	MCA-E02	Artificial Intelligence & Expert Systems
3.	MCA-E03	Cloud Computing
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
12.	MCA- E12	Software Quality and Testing

15. OFFICERS OF THE UNIVERSITY

S.N	Name	Designation	Telephone No.
1.	His Excellency Shri Rajendra Vishwanath Arlekar	Chancellor	0177-2624152, 53, 54
2.	Prof. S. P. Bansal	Vice-Chancellor	2831463
3.	Prof. Arvind Kalia	Dean of Studies	2830922, 2832922
4.	Prof. Jawahar Thakur	Chairman	2832569
5.	Prof. Nain Singh	Dean Student Welfare	2830926
6.	Prof. Ajay Attri	Chief Warden	2830917
7.	Sh. Suneel Sharma	Registrar	2830914
8.	Sh. Bansi Lal Shukla	Finance Officer	2830913
9.	Dr. J. S. Negi	Controller of Examinations	2830911, 2833551

16. TEACHING/ EXAMINATION/ VACATION SCHEDULE [SESSION 2022-23]

As per the Dean of Studies office notification No. 1-15/2021-HPU(DS)- dated 16.12.2021

Regular Teaching			
i.	I Semester	09-07-2022	12-11-2022
ii.	III Semester	01-07-2022	12-11-2022
iii.	II/IV Semester`	20-02-2023	25-05-2023
Preparation Days for Exams			
i.	Winter	13-11-2022	17-11-2022
ii.	Summer	26-05-2023	30-05-2023
Examination Schedule (Tentative)			
i.	Examination Schedule I/III	18-11-2022	31-12-2022
ii.	Examination Schedule II/IV	31-05-2023	30-06-2023
Vacation Schedule			
i.	Winter Vacation	01-01-2023	19-02-2023
ii.	Summer Vacation	23-06-2023	27-06-2023

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.

17. LIST OF AFFILIATED COLLEGES

I) Himachal Pradesh University Regional Centre Dharmshala

30 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.

Intake Capacity: 30 Seats

Fee Structure: At par with H.P. University, Shimla.

Address: H.P. University Regional Centre - Khaniara,
Dharamshala, Distt. Kangra (H.P.) – 176218

Email: hpurcd@gmail.com , csehpurc@gmail.com

Phone No.: 01892-246100, 98056-11320

Important Functionaries: Prof. D. P. Verma (Director), Dr. Sukhvir Singh (Co-ordinator)

Faculty Members

S. No.	Name & Designation	Qualification	Year of Joining	Total Experience(in years)
1	Dr. Sukhvir singh	MCA, Ph.D.	2020	19
2	Ms. Aditi Badhan	MCA	2020	2
3	Mr. Dheeraj Sonkhla	B.Tech., M.Tech.	2020	1
4	Mr. Rohit Kumar Verma	B.Tech., M.Tech.	2020	7
5	Ms. Shikha	MCA	2020	6

II) K.L.B. D.A.V Girls College for Technology, Palampur

K.L.B. D.A.V. College for Girls, Palampur is one of the pioneer Institute imparting education to girls in various disciplines. A beacon of knowledge and women empowerment, it has made a creative and meaningful contribution in the field of education in Himachal Pradesh and adjoining states. This prestigious institution is managed by Sh. Kanhya Lal Butail College for girls Managing Body Palampur (H.P.). College has well equipped library, labs, class rooms and Wi-Fi campus with the hostel and bank facility. The college is provided with high speed internet connectivity of 8mbps and having conference hall fitted with modern audio visual system. The institute is approved by AICTE, New Delhi and affiliated to Himachal Pradesh University, Shimla.

Intake Capacity: 60 Seats

Fee Structure: College Fee Rs. 26,000/- per Semester,
[University Charges; Exam fee and Security Fee (Refundable) Extra]

Address: K.L.B. D.A.V. Girls College for Technology,
Palampur, Distt. Kangra (H.P.) – 176061

Email: principal@klbdavcollege.org, ndawasthi@gmail.com

Important Functionaries: Dr. N. D. Sharma (Director-cum-Principal)

Phone No.: 01894-232587, 94180-45500, 98167-67528, 98163-08440

Placement Cell: Institute has well equipped and active placement cell.

Faculty at K.L.B. D.A.V Girls College for Technology, Palampur:

S.No.	Name	Qualification	Year of Joining	Total Experience (in years)
1.	Mr. Parvesh Sood	M.Sc.IT, M.Phil	2007	15
2.	Mrs. Shivani Awasthi	MCA	2008	14
3.	Mr Avinav Banyal	MCA	2013	09
4.	Ms. Tanya Chanana	M.Sc.IT	2013	09
5.	Mr. Rohit Rana	MCA	2014	08
6.	Mrs. Anjali Thakur	MCA	2015	07
7.	Ms. Komal	MCA	2019	03
8.	Ms. Sakshi Thakur	MCA	2019	03
9.	Mr. Amit Rana	B.Tech	2017	05
10.	Ms. Pratima Thakur	MCA	2018	04

18. 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.

(B) Instructions for filling the ONLINE APPLICATION FORM

- Click on “PG/UG/Ph.D./Certificate Diploma” to access the list of programs.
- Choose the program and click on the program name.
- Online Entrance Application form has following subsequent information
 - Personal Information
 - Education and Document Details
 - Application Summary
 - Payment
- Submit Reference number and application form
- Please fill the personal information first.
- After filling the personal information click on save button at the last of the page.
- System will generate the unique Registration number along with password. Applicants are advised to note the same.
- 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.
- After that you can continue and fill other required information or logout and login again with unique Registration number along with password.
- After that Click on “PG/UG/Ph.D./Certificate Diploma” and click on “Click here for Student Login”
- Login with unique Registration number along with password and you will get all the earlier submitted information in personal information page.
- Applicants are required to fill all information required in different sections like Education and Documents details.
- 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.
- To save the data please click on 'Continue and Save' button at the bottom of each screen.
- Step for making Application Fees Payment, you can pay the fees through online mode or by choosing Challan mode.

Payment through Challan

- 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.
- 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
- a) 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://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 2022.



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 pu^rity
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 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
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!