



# RKMV

**LONGWOOD SHIMLA-1  
ONLY GIRL'S COLLEGE IN H.P.**

**NAAC ACCREDITED B+  
AICTE/UGC APPROVED**

**BCA/PGDCA/MICROBIOLOGY/BIOTECHNOLOGY**

**ADMISSION 2025-2026**

## ★ ELIGIBILITY CRITERIA

- **BIOTECHNOLOGY & MICROBIOLOGY-**  
10+2 IN MEDICAL STREAM
- **BCA-** 10+2 FOR ALL STREAMS
- **PGDCA-** UG FOR ALL STREAMS

**CONTACT US**



9418685117, 9418903200



<https://rkmvshimla.edu.in>



<b>Admission Schedule for BCA/Biotechnology/Microbiology/PGDCA (1ST SEM/YEAR.)</b>		
Submission of admission forms for the session 2025-26	01.06.2025 to 19.06.2025	19 days
Pre-Admission counseling of students	13.06.2025 to 19.06.2025	08 days
Display of 1 <sup>st</sup> Merit List (UG 1 <sup>st</sup> year Students)	20.06.2025 up to 05:00 PM	
Fee to be deposited	21.06.2025 up to 23.06.2025	03 Days
Display of 2 <sup>nd</sup> Merit List	24.06.2025 up to 03:00 PM	
Fee to be deposited	25.06.2025 to 27.06.2025	03 days
Orientation for first year students	28.06.2025 to 30.06.2025	03 days
Admission of UG 2 <sup>nd</sup> year & final year students (Roll On Basis)	01.06.2025 to 19.06.2025	19 days
Fee to be deposited	12.06.2025 to 23.06.2025	12 days
Post admission counseling	24.06.2025 to 30.06.2025	07 days
Regular teaching	01.07.2025 to 15.03.2026 (excluding vacation period)	79 Days
	<b>Total Teaching Days</b>	<b>&gt;181 Days</b>
Annual Practical Examinations/Remedial/Need based Classes/Self-study by students	16.03.2026 to 25.03.2026	
Theory Examination	26.03.2026 to 10.05.2026	
Evaluation of Answer Scripts	07.04.2026 to 17.05.2026	
Results of all UG classes	Up to 30.06.2026	
Result of Re-evaluation	Up to 20.08.2026	
Supplementary Examination	September 2026	
Result of Supplementary Examination	October 2026	
Festival Break	2 days before and 2 days after Diwali	5 days
Winter Vacation	01.01.2026 to 04.02.2026	35 days
Summer vacation	19.05.2026 to 12.06.2026	25 days
	<b>Total Vacation period</b>	<b>65 Days</b>

#### NOTE

\*Admission to all programmes of the college is online.

The admission form, complete in all respects, along with copies of documents to be uploaded, is to be submitted through the college website:

#### IMPORTANT LINKS

<https://rkmvshimla.hightaleducation.in/>



## PRINCIPAL'S MESSAGE

Dear Students,

Education has great social importance, especially in modern, complex, and fast changing society. Philosophers since ancient times, have devoted great deal of attention to the man-making education system. Upholding the traditional system and values. I feel privileged to welcome the students to a world where they can fully realize and explore their potential and talent in a conducive environment. The process of learning offered here will not only enrich them but will also empower them to contribute in turn for the welfare and upliftment of the society.

We, at RKMV, one of the premier institutes of girls' education in the state are continuously garnering new talent and imparting the students with learning from the changing dynamics of the world. Over the years, the college has carved out a place for itself in serving the cause of female education. The college seeks to achieve a blend of traditional and modern education where knowledge is imparted in such a manner that the students are able to make a place for themselves in the modern competitive world and develop into an all round personalities retaining the beauty of the mind and intellect as well as of the soul.

RKMV has made its mark in the field of academics, sports, and culture. All this has been possible with the dedicated and strenuous efforts of experienced faculty members and also with the whole hearted cooperation of all the stakeholders. The college staff here is committed to not only helping the students excel in different fields but also come forward to deal with all the issues that they may face at this crucial juncture of life.

For this, the whole system is in place. The college inculcates in the students ideals and values of social work through NSS, NCC, Rovers and Rangers, etc. Apart from infusing dignity for all, it helps cultivate human traits that of being able to contribute to the collective responsibility of society. Education should not only be confined to mere dissemination of information, but it must be used as a tool for developing the right attitude, right perspective, and social responsibility.

Taking the banner of RKMV ahead, I assure that the college will play a meaningful role in the competitive times ahead and will also scale new heights, translating the dreams of the people into reality by making its unique place in the field of education. I pray for the future growth and prosperity of the college and wish success for the staff and students in the years to come.

Best Wishes  
Dr. Anurita Saxsena  
Principal RKMV



**Prof. Rajesh Chauhan**  
Co-ordinator  
B.C.A. & PGDCA, Biotechnology, Microbiology



# RAJKIYA KANYA MAHAVIDYALAYA (R.K.M.V.)

## A Brief Profile



Rajkiya Kanya Mahavidyalaya, Shimla (R.K.M.V.) was established in 1977 when the erstwhile RPCSDB was taken over by the state government. It is a historical and premier institute of higher learning duly accredited with a B<sup>+</sup> grade by NAAC and has also been awarded with Centre of Potential for Excellence status by the UGC. The college is an educational landmark of Himachal Pradesh which primarily aims at higher education of young women and offers undergraduate degree courses in Arts, Science, Commerce, Vocational and Computers. Since its inception in 1978 with the strength of 919 students, the college has been scaling great heights with student strength rising to more than three thousand in the session 2023-24. The job-oriented self-financed courses especially B.C.A., B.Sc. (Honours) in Microbiology and Biotechnology, P.G.D.C.A., Add-On courses, and value-added courses are also being offered to the students to keep pace with the demands of the globalized world.

The college is well equipped with lecture halls, a multi-purpose hall, an auditorium, laboratories, computer labs, a language lab, a computerized library, a common room, a gymnasium, a dispensary, and a canteen. Apart from these, a hostel facility is provided to tribal students in the Tribal Hostel and for general students in the Sainik Hostel based on merit. Besides sports, membership in many extension activities like NSS, NCC, Bharat Scouts and Guides, Eco Club, Energy Club, Youth Red Cross, Road Safety Club, Red Ribbon Club, and Rotaract Club can also be opted for by the students as per their interest to learn teamwork, discipline and a sense of responsibility. The college, with its commendable achievements, presents a series of orchestrated efforts on the academic and co-curricular fronts.

# Teaching Faculty

## Department of BCA & PGDCA

1. Ms. Sonika Thakur
2. Ms. Anita Mandhotra
3. Ms. Neha Sawant
4. Ms. Shruti Prashar
5. Ms. Priyanka Mokta

## Department of Biotechnology & Microbiology

1. Dr. Kiran Bala Sharma
2. Mr. Amit Sharma
3. Dr. Poonam Kumari
4. Dr. Ambika Sharma

## Admission- cum- Advisory Committee

BCA & PGDCA.	B.Sc. (Hons.) Biotechnology and B.Sc. (Hons.) Microbiology
VENUE - BCA LAB	VENUE - BCA LAB
Prof. Rajesh Chauhan & Teaching Staff of BCA & PGDCA	Prof. Rajesh Chauhan & Teaching Staff of Biotechnology & Microbiology

## CONTENTS

<b>S.No.</b>	<b>Headings</b>	<b>Page No.</b>
<b>1</b>	<b>Admission Guidelines for BCA 1st year</b>	<b>8</b>
<b>2</b>	<b>Eligibility Conditions</b>	<b>9</b>
<b>3</b>	<b>Admission Procedure</b>	<b>10</b>
<b>4</b>	<b>Fee Structure for 1<sup>st</sup> Semester</b>	<b>11</b>
<b>5</b>	<b>Course outline for 1<sup>st</sup> year BCA</b>	<b>11, 12</b>
<b>6</b>	<b>Roll-on Admission Instruction</b>	<b>12, 13</b>
<b>7</b>	<b>Course Outline for 2<sup>nd</sup> and 3<sup>rd</sup> year BCA</b>	<b>14, 15</b>
<b>8</b>	<b>PGDCA</b>	<b>15, 16</b>
<b>9</b>	<b>Admission Guidelines B.Sc. (Hons.) Biotechnology</b>	
<b>10</b>	<b>Eligibility Condition</b>	<b>18</b>
<b>11</b>	<b>Course outline</b>	<b>19-22</b>
<b>12</b>	<b>General Guidelines B.Sc. (Hons.)Biotechnology</b>	<b>22,23</b>
<b>13</b>	<b>Fee Structure</b>	<b>25</b>
<b>14</b>	<b>Admission Guidelines B.Sc. (Hons.) Microbiology</b>	
<b>15</b>	<b>Eligibility Condition</b>	<b>26</b>
<b>16</b>	<b>Course Outline</b>	<b>27</b>
<b>17</b>	<b>General Guidelines B.Sc. (Hons.)Microbiology</b>	<b>28,29</b>
<b>18</b>	<b>Fee Structure</b>	<b>30</b>
<b>19</b>	<b>Eligibility conditions to appear in the annual examination</b>	<b>31-33</b>
<b>20</b>	<b>Leave Rules For Students</b>	<b>34</b>
<b>21</b>	<b>Identity Card</b>	<b>35</b>

## Admission Guidelines for B.C. A. 1st year

- All the applicants are advised to see the College website for any change in the schedule.
- Claim to the admission will stand cancelled if a candidate fails to report for counselling on the date and time mentioned in the prospectus.
- If a candidate is selected for admission after counselling, she will be required to deposit the fee. immediately on the date and time mentioned, otherwise, her claim for admission will stand cancelled and the seat will be allotted to the next candidate in the merit list.
- Hostel Facility Available (only limited seats are available on a merit basis).

B.C.A. is a three-year degree course split over six Semesters leading to the award of the degree of Bachelor of Computer Applications from Himachal Pradesh University. The total number of seats in the BCA Course is 60. The distribution of seats is as under:

S. No.	Category	No. of Seats
1	Subsidized Seats	30
2	Non-Subsidized Seats	30
3	Total	60

### Basis of Admission

- The Admission to BCA-I semester shall be made based on merit.
- Separate merit lists shall be prepared for the subsidized and non-subsidized categories.
- The 30 subsidized seats shall be filled-in first and the remaining 30 seats in the self-financing category shall be filled after all the seats in the subsidized category are filled.
- NRIs/NRI-sponsored candidates can apply for admission only in the non-subsidized category
- There is no provision for reservation in the non-subsidized category.

### Admission to subsidized seats shall be subject to the following conditions:

- I. 15% and 7.5% of the seats shall be reserved for S.C. & S.T candidates respectively, who have passed their qualifying examination from H.P. Board of School Education or any other School affiliated to CBSE, ICSE, etc. located within the territorial jurisdiction of Himachal Pradesh or are bonafide residents of Himachal Pradesh.
- II. The remaining 77.5% of seats shall be filled as under:
  - i. 25% of seats will be filled on all-India basis.
  - ii. 75% of seats shall be filled out by the candidates who have passed their 10+2 examination from the schools situated in Himachal Pradesh irrespective of the Board subject to the following reservation rules.



- iii. 5% of the seats shall be reserved for outstanding sports persons.
- iv. 5% of the seats shall be reserved for outstanding students in cultural activities.
- v. 3% of the seats shall be reserved for physically handicapped candidates and 2 seats for single girl child.

**Note: The roster for reservation of seats for various categories shall be as per the rules of H.P. University.**

## **Eligibility Conditions**

### **BACHELOR OF COMPUTER APPLICATIONS (BCA)**

Effective from 2015-16 onwards Duration: 3 Years (6 Semesters)

#### **1. About the Course**

Bachelor of Computer Applications (BCA) is a three-year undergraduate course spread over six semesters under a self-financing scheme.

#### **2. Eligibility**

Candidates who have passed the 10+2 examination from H.P. Board/CBSE/ICSE or any other examination considered equivalent to 10+2, by the Himachal Pradesh University, Shimla-5, with 40% Marks (35% marks for SC/ST category), shall be eligible.

The maximum age limit for admission to the BCA course is 21 years for the general category, 24 years for the SC/ST category, and 23 years for girls candidates, as of the 1st July of the year concerned. The Vice Chancellor may permit age relaxation up to a maximum of three months.

#### **3. Mode of Selection**

The admission to the BCA course will be made based on the merit of the qualifying examination. As per H.P. University rules 75% of seats will be filled out by the candidates who have passed their 10+2 examination from the school situated in Himachal Pradesh irrespective of the Board. The remaining 25 % of seats will be filled on an India basis. Other reservation rules of H.P. University shall be applicable.

#### **4. Scheme of Examination**

The pass percentage in each subject will be 40%.

##### **i) Theory Papers:**

For Regular students, each paper will be of 100 marks (70 marks for END Semester theory examination and 30 marks for continuous comprehensive assessment) and the duration of each paper will be 3 hours.

##### **ii) Practical Examination (Max. Marks 50)**

**CCA (Continuous Comprehensive Assessment): 35**

**ESE (End Semester Examination): 15**

**Duration:** 3 hours.

A practical exam will be conducted by the external examiner from the panel submitted to The Chairman, Computer Science Department Himachal Pradesh University and duly approved by the competent authority of the University, Himachal Pradesh University, Shimla.

##### **iii) Project Work: (Max. Marks: 50)**

**CCA (Continuous Comprehensive Assessment): 35**

**ESE (End Semester Examination): 15**

In the 6th semester, the student has to develop one project, which will be evaluated by the external examiner from the panel submitted to The Chairman, of the Computer Science Department, Himachal Pradesh University, and duly approved by the university authority/evaluation branch, Himachal Pradesh University, Shimla on the following basis:

**1. Project Report 10 Marks (To be evaluated externally)**

**2. Seminar 15 Marks (To be evaluated internally)**

**3. Viva Voce 25 Marks (To be evaluated externally)**

**5. Medium of Instruction**

English will be the medium of instruction as well as examination.

**6. Promotion Rule**

As per the University norms.

## Admission Procedure

**Step: 1** Application form duly filled in, with the following documents enclosed, and should be submitted online to the College Website on or before 15<sup>th</sup> July 2024.

**On the date of counseling, the following documents should be deposited duly attested.**

- One attested photocopy of the Matriculation certificate as proof of date of birth.
- One attested photocopy of the 10+2 certificate.
- Character-cum-school leaving certificate (issued by the Principal of the institution last attended for regular students or by a Gazetted officer in case of private candidates) **in original**.
- The character certificate should have been issued within the last 6 months on the day of submission of the application.
- Migration certificate in original for those candidates who have done 10+2 from School Boards other than H.P. Board, Dharamshala.

NRIs/NRI-sponsored candidates & foreign nationals are eligible only for non-subsidized seats. They are required to attach the following additional documents along with the application form. The following documents will be considered as proof of their status for this purpose:

- Copy of the Non-Resident Card/ Employment Card issued by the employer.
- Photocopy of the Immigration Card/ Employment Visa entry on the passport along with details of the passport.
- Certificate issued by the Indian Embassy/ High Commission in the country where NRI is residing.
- Photocopy of the latest assessment order of the Income Tax Authorities either in India or the country of employment field in the status of Non-Resident Indian.
- Certificate of sponsorship from a NRI in case of a NRI sponsored candidate along with proof of NRI status of the sponsor.
- Proof of nationality in the case of foreign Nationals.

**Step: 2**

- Short-listed candidates shall have to deposit the dues from 16<sup>th</sup> July, 2024 to 18<sup>th</sup> July, 2024 getting their certificates verified and admission approved from the admission committee.
- University Registration form is to be filled and a copy of each of the Matriculation and 10+2 certificates is to be attached. The migration certificate, in original, is to be attached to the registration form.
- Admission will finally be approved by the Principal.
- Students are also required to fill in the library membership form which is not to be attached to the admission form.
- Library- cum- identity card will be issued from the library to a student on the production of fee receipt and library membership form.

Course outline and information about the examination system for B.C.A. I Semester will be made available to students as and when the college authorities receive these from the H.P. University.

### Fee Structure for 1<sup>st</sup> Semester

Subsidized seats:	
Consolidated fee:	Rs.12,000
PTA Fund	Rs.200
Library Security (Refundable) Rs.500	
University Development Fund (For Non.Sub/Sub/IRDP/BPL Rs.100/-As Per HPU Notification)	Rs.500/-Rs.250/-
Non-Subsidized seats:	
Consolidated fee	Rs.25,000/-
PTA Fund	Rs.200
Library Security (Refundable)	
University Development Fund (For Non.Sub /Sub/IRDP/BPL Rs.100/-As Per HPU Notification)	Rs.500/-Rs.250/-
University Development Fund	Rs.500

### BCA I Year (1<sup>st</sup> Semester)

**Note: The course structure is subjected to change as per the NEP2020**

Paper Code	Paper Title	Credit	Uni. Examination	Internal Assessment	Maximum Marks	Exam Duration Hours
BCA 0101	Mathematics-1	4	70	30	100	3
BCA 0102	Applied English	4	70	30	100	3
BCA 0103	Computer Fundamentals	4	70	30	100	3

BCA0104	C Programming	4	70	30	100	3
BCA0105	Office Automation Tools	4	70	30	100	3
BCA0104(P)	C Programming Lab –I	3	35	15	50	3
BCA0105(P)	Office Automation Tools Lab -2	3	35	15	50	3
		Total			600	

### BCA I Year (2<sup>nd</sup> Semester)

Paper Code	Paper Title	Credit	Uni. Examination	Internal Assessment	Maximum Marks	Exam Duration Hours
BCA 0201	Mathematics-11	4	70	30	100	3
BCA 0202	Communicative English	4	70	30	100	3
BCA 0203	Digital Electronics	4	70	30	100	3
BCA0204	Data Structures	4	70	30	100	3
BCA 0205	Data Base Management	4	70	30	100	3
BCA0204 (P)	Data Structures Lab-3	4	35	15	50	3
BCA0205(P)	Data Base Management Lab-4	4	35	15	50	3
		Total			600	

The above fee and funds are subject to change as per HPU /HP Govt. instructions.

## Roll-on Admission

Admission to the Third Semester and Fifth Semester of B.C.A shall be on a Roll-on basis. Without waiting for their university result, the students must fill in the admission form, attach relevant documents, and seek admission to the next higher class as per the admission schedule of H.P. University.

### Documents required:

- Certificates of lower classes.
- Three passport-size photographs (To be pasted on the admission form, library membership form, and identity card) and a postage stamp of Rs. 6/- to be affixed on the Student Progress Card.
- Certificate as proof of SC/ST status, Excellence in sports, Excellence in cultural activities, Physical Disability.

### Important instructions:

- All the students of B.C.A. Third Semester and Fifth Semester are directed to pay the college fee under the roll-on system well within the notified dates.
- No one will be permitted to attend the classes without depositing the prescribed fee.
- Lectures attended under the roll-on system will also be counted for determining eligibility to appear in the final examination.
- All admissions under the roll-on system are provisional and the admission of a student who fails to fulfill eligibility criteria after the declaration of the University result will stand automatically cancelled.
- Fee once deposited shall not be refunded.
- It is mandatory for all the students getting admission based on the roll-on system to get their admission regularised within ten days of the declaration of the University result.

## Course outline

### B.C.A.3<sup>rd</sup> Semester

Paper Code.	Paper Title	Credit	University Examination	Internal Assessment	Max. Marks	Exam Duration Hours
BCA-301	Mathematics III	4	70	30	100	3
BCA-302	Business Practices & Mgt.	4	70	30	100	3
BCA-303	Computer Organization	4	70	30	100	3
BCA-304	Object Oriented Programming in C++	4	70	30	100	3
BCA-305	Desktop Publishing and Designing	4	70	30	100	3
BCA-304(P)	Object Oriented Programming in C++ Lab-5	3	35	15	50	3
BCA-305(P)	Desktop Publishing and Designing Lab-6	3	35	15	50	3
TOTAL					600	

### B.C.A 4<sup>th</sup> Semester

Paper Code.	Paper Title	Credit	University Examination	Internal Assessment	Max. Marks	Exam Duration Hours
-------------	-------------	--------	------------------------	---------------------	------------	---------------------

BCA-401	Personal Management	4	70	30	100	3
BCA-402	Accounting	4	70	30	100	3
BCA-403	System Analysis & Design	4	70	30	100	3
BCA-404	Internet Technology & Web Page Design	4	70	30	100	3
BCA-405	Programming in Visual Basic	4	70	30	100	3
BCA-404(P)	Internet Technology & Web Page Design Lab-7	3	35	15	50	3
BCA-405(P)	Programming in Visual Basic Lab-8	3	35	15	50	3
TOTAL					600	

### B.C.A 5<sup>th</sup> Semester

Paper Code.	Paper Title	Credit	University Examination	Internal Assessment	Max. Marks	Exam Duration Hours
BCA-501	Operating System	4	70	30	100	3
BCA-502	eCommerce	4	70	30	100	3
BCA-503	Management Information System	4	70	30	100	3
BCA-504	ASP.net Technologies	4	70	30	100	3
BCA-505	Computer-Oriented Statistical Method	4	70	30	100	3
BCA-504(P)	ASP.net Technologies-9	3	35	15	50	3
BCA-505(P)	Computer-Oriented Statistical Method-10	3	35	15	50	3
TOTAL					600	

### B.C.A 6<sup>th</sup> Semester

Paper Code.	Paper Title	Credit	University Examination	Internal Assessment	Max. Marks	Exam Duration Hours
BCA-601	Computer Networks	4	70	30	100	3
BCA-602	Numerical Methods	4	70	30	100	3
BCA-603	Multimedia Technology	4	70	30	100	3
BCA-604	Computer Graphics	4	70	30	100	3



BCA-605	Software Engineering	4	70	30	100	3
BCA-604(P)	Computer Graphics-11	3	35	15	50	3
BCA-606(P)	Major Project	3	35	15	50	3
TOTAL					600	

**Note: For Readmission Rs. 500/-will be charged and for detailed information go through the common prospectus of B. A/B.Sc./B. Com**

## Post Graduate Diploma in Computer Applications

PGDCA is a one-year diploma course split over two semesters, leading to the award of a Diploma in Computer Applications, from Himachal Pradesh University. The admission to the course is open under two categories:

S. No.	Category	No. of Seats
1	PGDCA	40
2	Total	40

### Basis of Admission

- The admission to PGDCA shall be made based on merit.

### Eligibility Conditions

- Graduation in any discipline or equivalent of any University established by law in India with 50% marks (45% marks in case of Scheduled Caste/ Scheduled Tribe).
- Students appearing in the examination of the final year of the Graduation course may also apply provided they fulfill eligibility conditions at the time of counselling.

### Age Limit

- The maximum age limit is 28 years on July 1, 2024, for general category candidates and 29 years for candidates belonging to the SC/ST category.

## Admission Procedure

**Step: 1** Application form duly filled in, with the following documents enclosed, should be submitted online on the college website after HP University's latest notification for admission.

- One attested copy of the Matriculation certificate as proof of date of birth. One attested copy of the 10+2 certificate.
- One attested copy of B.A./B.Sc./B.Com. certificate.

- Three passport-size photographs (To be pasted on the admission form, library membership form, identity card. and a postage stamp of Rs. 6/- to be affixed on the Student Progress Card).
- Certificate as proof of SC/ST status, Excellence in sports, Excellence in cultural activities, Physical Disability.
- Valid character-cum-College leaving certificate (issued by the Principal of the institution last attended for regular students or by a gazetted officer in case of private candidates) **in original**.
- The character certificate should have been issued within the last 6 months on the day of submission of the application.
- Migration certificate in original for those candidates who have graduated from a University other than H.P. University.

## Step: 2

- University Registration form is to be filled and a copy of each of the Matriculation, 10+2, and Graduation certificates is to be attached by those candidates who have graduated from a University other than H.P. University.
- Migration certificate, in original, is to be attached with the registration form.
- The Principal will finally approve admission.
- Students are also required to fill in the library membership form which is not to be attached to the admission form.
- Library- cum- identity card will be issued from the library to a student on the production of fee-receipt and library membership form.

## Course outline

### PGDCA – First Semester

Paper No	Title	Maximum Marks	Continual Internal Assessment
DCS-101	Fundamentals of Programming Using C	75	25
DCS-102	PC Software	75	25
DCS-103	Operating System	75	25
DCS-104	Computer Organization and Architecture	75	25
DCS-105	Practical –I (C language)	75	25
DCS-106	Practical –II (PC Software)	75	25

### PGDCA – Second Semester

Paper No	Title	Maximum Marks	Continual Internal Assessment
DCS-201	Data and File Structure	75	25
DCS-202	System Analysis and Design	75	25
DCS-203	Object Oriented Programming & C++	75	25
DCS-204	Data Base Management System	75	25
DCS-205	Practical –III (DFS Using C++)	75	25
DCS-206	Practical –IV ( Data Base Management System)	75	25

DCS-207	Project Work	200	--
---------	--------------	-----	----

**N.B: The project will involve the development of application software for some industry/institution.**

## Fee Structure

Fee Rs. 14,000/- (PTA Fund=200/-, Library Security (refundable) =500/-
---

Note:

- Migration fee of Rs. 400/- will be charged in case the student has passed the qualifying examination other than H.P. University.
- The above fee and funds are subject to change as per HPU/HP Govt. instructions.
- The fee will be paid in full at the time of admission. The fee once deposited shall not be refunded.

## **B.Sc. (Hons.)Biotechnology**

### **No. of Seats**

The total number of seats is 25.

### **Basis of Admission**

Admission will be based on the merit of 10+2 or equivalent Examination.

### **Eligibility Conditions**

- (a) The admission to the B.Sc. with Major in Biotechnology Programme of Himachal Pradesh University will be as per guidelines of Himachal Pradesh University, Shimla from time to time.
- (b) The candidate should have passed the 10+2 (class XII) Examination or its equivalent from a recognized Board/University with any of the three subjects out of Physics, Chemistry, and Biology or any other science subject with 50% or equivalent grade (for SC/ST candidates marks of eligibility will be 45% or equivalent grade).
- (c) In the Case of Candidates who are studying in a University /Board/College /School in any of the foreign Countries the eligibility/qualifying marks will be the same as recognized /equivalent to 10+2 by the university or Association of Indian University with 50% marks or equivalent grade (for ST/SC candidates eligibility will be 45% marks or equivalent grade).
- (d) The candidate who has appeared in the qualifying examination but whose result has so far not been declared can also apply but his/her eligibility for the entrance test will be purely provisional subject to the condition that he/she has to produce a passing certificate scoring at least the minimum percentage of marks as prescribed for the qualifying examination on the day and the specified time of counselling

### **Age Limit**

The candidate shall not be more than **22** years of age as on 1st July 2024.

## **Admission Procedure**

### **Submission of application forms**

Application form duly filled-in, with the following documents enclosed, should be submitted online in the College Website on or before 15<sup>th</sup> July, 2024.

### **On the date of counselling following documents should be deposited duly attested.**

- One attested photocopy of Matriculation certificate as a proof of date of birth.
- One attested photocopy of 10+2 certificate.
- Three passport-size photographs (To be pasted on the admission form, library membership form, identity card) and a postage stamp of Rs. 6/- to be affixed on the Student Progress Card.
- Certificate as proof of SC/ST status, Excellence in sports, Excellence in cultural activities, Physical Disability.
- Valid character-cum-school leaving certificate (issued by the Principal of the institution last attended for regular students or by a Gazetted officer in case of private candidates) **in original**.

- The character certificate should have been issued within the last 6 months on the day of submission of application.
- Migration certificate in original for those candidates who have done 10+2 from School Boards other than HP Board of School Education, Dharamshala.

## Selection & Admission

- List of short-listed candidates shall be displayed on the college website or the college notice board on 15<sup>th</sup> July 2024 at 4.00 p.m.
- Short-listed candidates shall have to deposit the dues by 16<sup>th</sup> July 2024 to 18<sup>th</sup> July 2024 after getting their certificates verified and admission approved from the admission committee.
- University Registration form is to be filled and a copy each of Matriculation and 10+2 certificate is to be attached. Migration certificate, in original, is to be attached with the registration form.
- Admission will finally be approved by the Principal.
- Students are also required to fill in library membership form which is not to be attached with the admission form.
- Library cum identity card will be issued from the library to a student on the production of fee-receipt and library membership form.

## Course Outline

**Note: The course structure is subjected to change as per the NEP2020**

Year	Core Course-12		Credits	Ability Enhancement Course (SEC),(2)	Credits	Skill Enhancement Course (SEC),(2)	Credits	Discipline Specific Elective (DSE),(4)	Credits	Discipline Specific Elective (DSE),(8)	credits
1 <sup>st</sup>	BIOTECH1C01TH	Biochemistry & Metabolism	4	ENGL103/H	4	NIL				GE-1 MICRO1G	4
	BIOTECH1C01PR	Biochemistry & Metabolism	2	INDI/MIL						E01TH-Cell	2
	BIOTECH1C02TH	General Microbiology	4	ENVS2AEC	4					Biology MICRO1G	
	BIOTECH1C02PR	General Microbiology	2	C02						E01PR-Cell	
	BIOTECH1C03TH	Genetics	4	Environment Science						Biology	4
	BIOTECH1C03PR	Genetics	2								
	BIOTECH1C04TH	Molecular Biology	4								
	BIOTECH1C04PR	Molecular Biology	2							GE-2 CHEM GE 103TH-Chemistry -1	2
										CHEM GE 103PR-	

										Chemistry -1	
2	BIOTECH2C05TH BIOTECH2C05PR BIOTECH2C06TH BIOTECH2C06PR BIOTECH2C07TH BIOTECH2C07PR BIOTECH2C08TH BIOTECH2C08PR BIOTECH2C09TH BIOTECH2C09 PR BIOTECH2C10TH BIOTECH2C10 PR	Immunology Immunology Bioprocess Technology Bioprocess Technology Recombinatio n DNA Technology Recombinatio n DNA Technology Environmental Biotechnology Environmental Biotechnology Bacteriology and Virology Bacteriology and Virology Microbial Physiology Microbial Physiology	4 2 4 2 4 2 4 2 4 2 4 2			Any 3SEC Subjec t in yearII	8			GE-3 MICRO2G E02TH- Cell Biology MICRO2G E02PR- Cell Biology  GE-4 CHEM GE 205TH- Chemistry -11  CHEM GE 205PR- Chemistry -14	4  2
3	BIOTECH3C11TH BIOTECH3C11 PR BIOTECH3C12TH BIOTECH3C12PR	Animal Biotechnology Animal Biotechnology Plant Biotechnology Plant Biotechnology	4 2 4 2			Any 2SEC Subjec t in year III	8			Any 4 DSE Subject in III year from the list (Theory=4 &Practical =2)	24



	BIOTECH3C13TH	Medical Microbiology	4							
	BIOTECH3C13PR	Medical Microbiology	2							
	BIOTECH3C14TH	Food Biotechnology	4							
	BIOTECH3C14PR	Food Biotechnology	2							
Core course Total Credits=			84	AECC Total Credits	8	Se Total Credits	8		:Discipline Specific Total Credits=	48

**Total Credits:** 84+8+8+48=148

TH:Theory, PR: Practical, C: Core Courses, GE :Generic Elective, AECC:Ability Enhancement Compulsory Course, SEC:Skill Enhancement Courses, DESDiscipline Specific Elective

### Structure of B.Sc. (Hons) Biotechnology under CBCS Annual Core Courses

1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year
BIOTECH1C01 Biochemistry & Metabolism	BIOTECH2C05 Immunology	BIOTECH3C11 Animal Biotechnology
BIOTECH1C02 General Microbiology	BIOTECH2C06 Bioprocess Technology	BIOTECH3C12 Plant Biotechnology
BIOTECH1C03 Genetics	BIOTECH2C07 Recombination DNA Technology	BIOTECH3C13 Medical Microbiology
BIOTECH1C04 Molecular Biology	BIOTECH2C08 Environmental Biotechnology	BIOTECH3C13 Food Biotechnology
	BIOTECH2C09 Bacteriology and Virology	
	BIOTECH2C10 Microbial Physiology	

### Ability Enhancement Compulsory Course (AEC)

ENGL103 English Communication  
ENVS1AECC02 Environment Science

### Skill Enhancement Elective Course

(Any 2 SEC Subjects in 2<sup>nd</sup> year and any 2 SEC subjects in 3<sup>rd</sup> year from the list)

**2<sup>nd</sup>Year**

BIOTECH2SEC01:	Enzymology
BIOTECH2SEC02:	Bioinformatics
BIOTECH2SEC03:	Bio fertilizer& Biopesticides
BIOTECH2SEC04:	Microbial Metabolism
BIOTECH2SEC05:	Biostatistics

**Generic Elective Course**

(Fora Stream other than B.Sc. Hons. Biotechnology (CBCS-Annual))

1 <sup>st</sup> Year	2 <sup>nd</sup> Year
GE-1 BIOTECH1GE01TH Mycology and Phycology BIOTECH1GE01PR Mycology and Phycology	GE-3 BIOTECH2GE3TH Molecular Biology BIOTECH2GE3PR Molecular Biology
GE-2 BIOTECH1GE02TH Mycology and Phycology BIOTECH1GE02PR Mycology and Phycology	GE-4 BIOTECH2GE04TH Immunology BIOTECH2GE04PR Immunology

**Discipline Specific Elective**

(Any 4 DSE Subjects in III Year from the list)

**3<sup>rd</sup>Year**

BIOTECH3DSE01	Biochemical Engineering
BIOTECH3DSE02	Advances in Microbiology
BIOTECH3DSE03	Ecology and Environment Management
BIOTECH3DSE04	Biosafety and Intellectual Property Right
BIOTECH3DSE05	Basic of Forensic Science
BIOTECH3DSE06	Molecular Diagnostics

**Choice-based Credit System****B.Sc. (Hons) Biotechnology**

1 <sup>st</sup> Year	
BIOTECH1C01	Biochemistry & Metabolism
BIOTECH1C02	General Microbiology
BIOTECH1C03	Genetics
BIOTECH1C04	Molecular Biology
ABILITY Enhancement Compulsory Course (AEC)	
ENGL103 English Communication	
ENVS1AECC02 Environment Science	
Generic Elective Course	
GE1 GE 2	

2 <sup>nd</sup> Year			
BIOTECH 2C05	Immunology		
BIOTECH 2C06	Bioprocess Technology		
BIOTECH 2C07	Recombinant DNA Technology		
BIOTECH 2C08	Environmental Biotechnology		
BIOTECH 2C09	Bacteriology and Virology		
BIOTECH 2C10	Microbial Physiology		
SKILL ENHANCEMENT COURSES (SEC-ANY TWO)			
BIOTECH2SEC01	Enzymology		
BIOTECH2SEC02	Bioinformatics		
BIOTECH2SEC03	Biofertilizer/Biopesticides		
BIOTECH2SEC04	Industrial Fermentations		
BIOTECH2SEC05	Biostatistics		
GENERIC ELECTIVE (FROM STREAM other than Biotechnology) GE3 GE4			

3 <sup>rd</sup> Year			
BIOTECH3C11	Animal Biotechnology		
BIOTECH 3C12	Plant Biotechnology		
BIOTECH 3C13	Medical Biotechnology		
BIOTECH 3C14	Food Biotechnology		
Discipline Specific elective (DSE-Any Four)			
BIOTECH3DSE01	Biochemical Engineering		
BIOTECH3DSE02	Advances in Microbiology		
BIOTECH3DSE03	Ecology and Environment Management		
BIOTECH3DSE04	Biosafety and Intellectual Property Rights		
BIOTECH3DSE05	Basic of Forensic Science		
BIOTECH3DSE06	Molecular Diagnostics		

#### C- Core Courses

**AECC-** Ability Enhancement Compulsory Course

**SEC-** Skill Enhancement Courses

**DSE-** Discipline-Specific Elective

### GENERAL INSTRUCTIONS/GUIDELINES FOR B.Sc. (Honours) Biotechnology

1. The B.Sc. (Honours) Biotechnology will be three years duration semester-based choice-based credit system (CBCS) course.
2. There will be broadly three types of courses for the B.Sc. (Honours) Biotechnology degree program.
3. The **Core Courses** (12 courses for Honours) will be of 6 credits each including 2 credits assigned to the practical component. Thus, a candidate will have to pass 14 courses for earning  $12 \times 6 = 72$  credits during the 1<sup>st</sup> & 2<sup>nd</sup> Years. Each of the 6-credit courses will carry 100 marks. These 100 marks will be split into marks assigned for Theory (TH):50 Marks: Practical (PR) 20marks and Internal Assessment (IA):30. The Internal Assessment 30 marks will include one Multi Choice Questions (MCQ)-based examination of 10marks) Classroom Attendance Incentive marks (5Marks), Presentation/Assignment of 5marks and Seminar/Lab

Assignment of 10 marks. The lab-based practical will be of two hours (1 credit). A total of  $12 \times 6 = 72$  credits could be accumulated under these courses during the Honours Degree Program.

4. The **Elective Courses** will be chosen from a pool of courses and which be very specific or specialized or advanced or supportive to the discipline/subject of supply or which provide an extended scope or which enable exposure to some other discipline/ subject/domain or nurtures the candidate's proficiency/skill. The Elective Courses will include;
5. **Discipline-Specific Elective (DSE) Courses**: A total of 8 courses offered under the main discipline subject or study is referred to as discipline-specific elective & will be studied by the candidates in 3 years. These courses will be of 6 credits each including 2 credits assigned for the practical component of each of these courses. These courses are discipline-related and /or interdisciplinary in nature. A total of  $8 \times 6 = 48$  credits could be accumulated under DSE courses during the Honour's Degree Program.
6. **Ability Enhancement Compulsory Course (AECC)**: Ability Enhancement Courses are of two types; Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC). The AECC courses are mandatory courses based upon the content that leads to knowledge enhancement; environmental science and ii. English/Hindi/ MIL Communication. All these are mandatory courses for obtaining a B.Sc. (Honours) degree in the concerned subject. These courses are mandatory for all disciplines. A total of  $2 \times 4 = 08$  credits in 1<sup>st</sup> year could be accumulated under these courses during the Honour's Degree Program
7. **SEC courses** are value-based and /or skill-based and are aimed at providing hands-on training, competencies, skills, etc. A Minimum of four such courses (3 SEC in year II and 2 SEC in year III) for obtaining an honors degree are selected amongst the courses designed to provide value-based and /or skill-based knowledge and may contain both theory & lab/hands-on training. The main purpose of these courses is to provide students with life –skills in the hands-on mode to increase their employability. A total of  $5 \times 4 = 20$  credits could be accumulated under SEC courses during the Honours degree program.
8. **The practical (PR)** component has been included in every core and discipline/generic specific elective paper. The list of practicals to be conducted by the candidates by the candidates has been provided alongside each of such courses. The marks (20 marks) for the practical examination will be split as follows.

Write up of Practical I	4marks
Performance of any one of the above practical's	7marks
Practical record/notebook	3marks
Viva Voce	6marks

9. **Classroom Attendance Incentive**: Those candidates who have greater than 75% attendance (for those participating in Co-curricular activities, 25% will be added to percent attendance) will be awarded CAI marks as follows:

>75% but <80%	1marks
>80% but <85%	2marks
>85% but <90%	3marks
>90% but <95%	4marks
>95% to 100%	5marks

10. The candidate has to secure minimum pass marks individually in theory paper, Practical as well as Internet Assessment to earn full credits in the concerned course. A candidate thus failing in any of these components shall be considered failed in that course.
11. The admission to the B.Sc. (Honours) Biotechnology programme of Himachal Pradesh University will be as per guidelines of Himachal Pradesh University, Shimla from time to time.

12. The candidate should have passed the 10+2 (class XII) Examination or its equivalent from a recognized Board/University with any of the three subjects out of physics Chemistry and Biology or any other science subject with be 50% or equivalent grade (for SC/ST candidates marks of eligibility will be 45% or equivalent grade).
13. In case of candidates who are studying in university /Board/College/Schools in any of the foreign countries the eligibility /Qualifying marks will be the same as recognized equivalent to 10+2 by the university or the association of the Indian university with 50% marks or equivalent grade (for SC/ST candidates, eligibility will be 45% marks or equivalent grade).
14. The candidates who have appeared in the qualifying examination but whose result has so far not been declared can also apply but his/her eligibility for the entrance test will be purely provisional subject to the condition that he /she has to produce a passing certificate scoring at least the minimum percentage of marks as prescribed for the qualifying examination on the day and the specified time of counselling.
15. The candidates shall not be more than 22 years of age as of 1<sup>st</sup> July of the year of admission. Date of birth as recorded in the Secondary Education Board /University Certificate only will be considered as authentic.

### Fee Structure (Biotechnology) 1, 2 & 3<sup>rd</sup> Year

Consolidated Fee	Rs.40, 000/-
PTA Fund	Rs.200/-
Library Security	Rs.500/-
Counselling Fee	Rs.500/-
University Development Fund (For Non. Sub /Sub/IRDP/BPL	Rs.500/-Rs.250/Rs.100/-
(As Per HPU Notification)	

\*The above fee and funds are subject to change as per HPU/HP Govt. Instruction. The fee will be paid in full at the time of admission. The fee once deposited shall be refunded.

**Note:** Rs.500/- will be charged for readmission

## B.Sc. (Hons.) Microbiology

### No. of Seats

The total number of seats is 25.

### Basis of Admission

Admission will be based on the merit of 10+2 or equivalent Examination.

### Eligibility Conditions

- The admission to the B.Sc. with Major in Microbiology Programme of Himachal Pradesh University will be as per guidelines of Himachal Pradesh University, Shimla from time to time.
- (b) The candidate should have passed the 10+2 (class XII) Examination or its equivalent from a recognized Board/University with any of the three subjects out of Physics, Chemistry, and Biology or any other science subject with 50% or equivalent grade (for SC/ST candidates marks of eligibility will be 45% or equivalent grade).
- (c) In the Case of Candidates who are studying in a University /Board/College /Schools in any of the foreign Countries the eligibility/qualifying marks will be the same as recognized /equivalent to 10+2 by the university or Association of Indian University with 50% marks or equivalent grade (for ST/SC candidates' eligibility will be 45% marks or equivalent grade).
- The candidate who has appeared in the qualifying examination but whose result has so far not been declared can also apply. Still, his/her eligibility for the entrance test will be purely provisional subject to the condition that he/she has to produce a passing certificate scoring at least the minimum percentage of marks as prescribed for the qualifying examination on the day and the specified time of counseling.

### Age Limit

The candidate shall not be more than **22** years of age as of 1<sup>st</sup> July 2024.



## Admission Procedure

### Submission of application forms

The application form duly filled in, with the following documents enclosed, should be submitted online to the College Website on or before 15th July 2024.

### On the date of counselling following documents should be deposited duly attested.

- One attested photocopy of the Matriculation certificate as proof of date of birth.
- One attested photocopy of the 10+2 certificate.
- Three passport-size photographs (To be pasted on the admission form, library membership form, and identity card) and a postage stamp of Rs. 6/- to be affixed on the Student Progress Card.
- Certificate as proof of SC/ST status, Excellence in sports, Excellence in cultural activities, Physical Disability.
- Valid character-cum-school leaving certificate (issued by the Principal of the institution last attended for regular students or by a Gazetted officer in case of private candidates) **in original**.
- The character certificate should have been issued within the last 6 months on the day of submission of the application.
- Migration certificate in original for those candidates who have done 10+2 from School Boards other than the HP Board of School Examination, Dharamshala.

### Selection & Admission

- The first list of short-listed candidates shall be displayed on the college website or the college notice board on 15<sup>th</sup> July 2024 at 4.00 p.m.
- Short-listed candidates shall have to deposit the dues between 16th July 2024 to 18<sup>th</sup> July 2024 after getting their certificates verified and admission approved by the admission committee.
- University Registration form is to be filled and a copy of each of Matriculation and 10+2 certificate is to be attached. The migration certificate, in original, is to be attached to the registration form.
- The principal will finally approve admission.
- Students are also required to fill in the library membership form which is not to be attached to the admission form.
- Library cum identity card will be issued from the library to a student on the production of fee receipt and library membership form.

## Course Outline

Year	Core Course (14)		CREDITS	Ability Enhancement Compulsory Course (AECC),(2)	CREDITS	Skill Enhancement Course (SEC),(5)	CREDITS	Discipline Specific Elective: (DSE),(4)	CREDITS	Generic Elective(GE),(4) Discipline Specific Elective (DSE)(4)	CREDITS
1	MICRO1C O1TH	Introduction to Microbiology & Microbial Diversity	4	ENGL03/ Hindi/MIL Communication	4	NIL				GE-1 BIOTECHGE01TH MYCOLOGY & PHYCOLOGY	4
	MICRO1C O1PR	Introduction to Microbiology & Microbial Diversity	2							BIOTECHGE01PR MYCOLOGY & PHYCOLOGY	2
	MICRO1C O2TH	Bacteriology	4	ENVS AECC02 Environment Science	4					GE-2	
	MICRO1C O2PR	Bacteriology	2								
	MICRO1C O3TH	Biochemistry	4								
	MICRO1C O3PR	Biochemistry	2								
	MICRO1C O4TH	Virology	4							BIOTECHGE02TH Cell Biology	4
	MICRO1C O4PR	Virology	2							BIOTECHGE02PR Cell Biology	2
2	MICRO2C O5TH	Microbial Physiology & Metabolism	4		4	Any 2 SEC Subject in Year 2	08			GE-3 BIOTECH2GE3TH Molecular Biology	4
	MICRO1C O5PR	Microbial Physiology & Metabolism	2							BIOTECH2GE3PR Molecular Biology	2
	MICRO2C O6TH	Environmental Microbiology	4							GE-4	
	MICRO2C O6PR	Environmental Microbiology	2								
	MICRO2C O7TH	Recombinant DNA Technology	4								
	MICRO2C O7PR	Recombinant DNA Technology	2							BIOTECH2GE04TH Immunology	4
	MICRO2C O8TH	Industrial Microbiology	4							BIOTECH2GE04	

	MICRO2C O8PR	Industrial Microbiology	2						TH Immunology	2	
	MICRO2C O9TH	Microbes in Sustainable Agriculture& Development	4								
	MICRO2C O9PR	Microbes in Sustainable Agriculture & Development	2								
	MICRO2C 10TH	Molecular Diagnostics	4								
	MICRO2C 10PR	Molecular Diagnostics	2								
3	MICRO3C 11TH	Food & Dairy Microbiology	4		NIL				Any 4DSE Subject in r3 year from the list (Theory=4 &Practical=2	24	
	MICRO3C 11PR	Food & Dairy Microbiology	2								
	MICRO3C 12TH	Medical Microbiology	4								
	MICRO3C 12PR	Medical Microbiology	2								
	MICRO3C 13TH	Bioprocess Technology	4								
	MICRO3C 13PR	Bioprocess Technology	2								
	MICRO3C 13TH	Instrumentation &Biotechniques	4								
	MICRO3C 13PR	Instrumentation &Biotechniques	2								
Core Course Total Credits=			8 4	AECCT.Cr dits	8	SE.TCrd its=	8	Disciplin e Specific Elective Total Credits=	24	Generic Elective T.Credits=	24

**Total Credits:**84+8+8+24+24=148 TH: Theory; PR: Practical : C:Core Course GE: AECC Ability Enhancement Compulsory Course; SEC: Skill Enhancement Courses;Generic Elective DSE: Discipline Specific Elective

## Structure of B.Sc. Honours Microbiology under CBCS Annual Core Course(c)

### 1<sup>st</sup> year

MICRO1C01 Introduction to Microbiology & Microbial Diversity  
MICRO1C01 Bacteriology  
MICRO1C03 Biochemistry  
MICRO1C04 Virology

### 2<sup>nd</sup> year

MICRO2C05 Microbial Physiology & Metabolism  
MICRO2C06 Environmental Microbiology  
MICRO2C07 Recombinant DNA Technology  
MICRO2C08 Industrial Microbiology  
MICRO2C09 Microbes in Sustainable Agriculture & Development  
MICRO2C10 Molecular Diagnostics

### 3<sup>rd</sup> year

MICRO3C11 Food & Dairy Microbiology  
MICRO3C12 Medical Microbiology  
MICRO3C13 Bioprocess Technology  
MICRO3C14 Instrumentation & Bio techniques

### Ability Enhancement Compulsory Course

ENGL103: English /HINDI/MIL Communication  
ENVS1AECC02: Environment Science

### Skill Enhancement Elective Course (SEC)

(Any 2 SEC Subjects in 2<sup>nd</sup> Year from the list)

2 <sup>nd</sup> Year	
MICRO2SEC01	Microbial Quality Control in Food & Pharmaceutical Industries
MICRO2SEC02	Microbial Diagnosis in Health Clinics
MICRO2SEC03	Biofertilizers & Biopesticides
MICRO2SEC04	Agriculture Microbiology
MICRO2SEC05	Management of Human Microbial Diseases

### Generic Elective Courses

(For Streams other than B.Sc. Hons. Microbiology (CBCS-Annual))

1 <sup>st</sup> Year	2 <sup>nd</sup> Year
GE- 1	GE-3

MICRO1GE01TH	Cell Biology	MICRO1GE03TH	Bio Analytical Tools
MICRO1GE01PR	Cell Biology	MICRO1GE03PR	Bio Analytical Tools
MICRO1GE02TH	Inheritance Biology	GE-4	
MICRO1GE02PR	Inheritance Biology	MICRO1GE04TH	Microbial Genetics
		MICRO1GE04PR	Microbial Genetics

### Discipline Specific Elective

(Any 4DSE Subjects in 3<sup>rd</sup> Year from the List)

3 <sup>rd</sup> Year ONLY	
MICRO3DSE01	Biochemical Engineering
MICRO3DSE02	Biostatistics
MICRO3DSE03	Ecology & Environment Management
MICRO3DSE04	Parasitology
MICRO3DSE05	Plant Pathology
MICRO3DSE06	Advances in Microbiology

**C:**Core Courses

**GE:** Generic Elective

**AECC:** Ability Enhancement Compulsory Course

**SEC:** Skill Enhancement Courses

**DSE:** Discipline Specific Elective

## GENERAL INSTRUCTIONS/GUIDELINES FOR B.Sc. (Honours) MICROBIOLOGY

1. The B.Sc. (Honours) Microbiology will be of three years duration semester-based choice-based credit system (CBCS) course.
2. There will be broadly three types of courses for the B.Sc. (Honours) Biotechnology degree program.
3. The **Core Courses** (12 courses for Honours) will be of 6 credits each including 2 credits assigned to the practical component. Thus, a candidate will have to pass 14 courses to earn  $12 \times 6 = 72$  credits during 1<sup>st</sup> & 2<sup>nd</sup> Year. Each of the 6-credit courses will carry 100 marks. These 100 marks will be split into marks assigned for Theory (TH):50 Marks: Practical (PR) 20marks and Internal Assessment (IA):30. The Internal Assessment 30 marks will include one Multi Choice Questions (MCQ)-based examination of 10 marks) Classroom Attendance Incentive marks (5 marks), Presentation /Assignment of 5 marks, and Seminar/Lab Assignment of 10 marks. The lab-based practical will be of two hours (1 credit). A total of  $12 \times 6 = 72$  credits could be accumulated under these courses during the Honours Degree Program.
4. The **Elective Courses** will be chosen from a pool of courses and which be very specific or specialized or advanced or supportive to the discipline/subject of supply or which provide an extended scope or enable exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill. The Elective Courses will include;
5. **Discipline-Specific Elective (DSE)** Courses: A total of 8 courses offered under the main discipline subject or study is referred to as discipline-specific elective & will be studied by the candidates in 3years. These courses will be of 6 credits each including 2 credits assigned for the practical component of each of these courses. These courses are discipline-related and /or interdisciplinary in nature. A total of  $8 \times 6 = 48$  credits could be accumulated under DSE courses during the Honour's Degree Program.

6. **Ability Enhancement Compulsory Course (AECC):** Ability Enhancement Courses are of two types; Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC). The AECC courses are mandatory courses based upon the content that leads to knowledge enhancement; environmental science and ii. English/Hindi/ MIL Communication. All these are mandatory courses for obtaining a B.Sc. (Honours) degree in the concerned subject. These courses are mandatory for all disciplines. A total of  $2 \times 4 = 08$  credits in 1<sup>st</sup> year could be accumulated under these courses during the Honour's Degree Program
7. **SEC** courses are value-based and /or skill-based and are aimed at providing hands-on training, competencies, skills, etc. A Minimum of four such courses (3 SEC in year II and 2 SEC in year III) for obtaining an honors degree are selected amongst the courses designed to provide value-based and /or skill-based knowledge and may contain both theory & lab/hands-on training. The main purpose of these courses is to provide students with life –skills in the hands-on mode to increase their employability. A total of  $5 \times 4 = 20$  credits could be accumulated under SEC courses during the Honours degree program.
8. The Practical (PR) component has been included in every core and discipline/generic specific elective paper. The list of practical to be conducted by the candidates by the candidates has been provided alongside each of such courses. The marks (20 marks) for the practical examination will be split as follows.
- |   |        |
|---|--------|
| Write up of Practical I                         | 4marks |
| Performance of any one of the above practical's | 7marks |
| Practical record/notebook                       | 3marks |
| Viva Voce                                       | 6marks |
9. Classroom Attendance Incentive: Those candidates who have greater than 75% attendance (for those participating in Co-curricular activities, 25% will be added to percent attendance) will be awarded CAI marks as follows:
- |               |        |
|---------------|--------|
| >75% but <80% | 1marks |
| >80% but <85% | 2marks |
| >85% but <90% | 3marks |
| >90% but <95% | 4marks |
| >95% to 100%  | 5marks |
10. The candidate has to secure minimum pass marks individually in theory paper, Practical as well as Internet Assessment to earn full credits in the concerned course. A candidate thus failing in any of these components shall be considered failed in that course.
11. The admission to the B.Sc. (Honours) Biotechnology program of Himachal Pradesh University will be as per guidelines of Himachal Pradesh University, Shimla from time to time.
12. The candidate should have passed the 10+2 (class XII) Examination or its equivalent from a recognized Board/University with any of the three subjects out of physics Chemistry and Biology or any other science subject with be 50% or equivalent grade (for SC/ST candidates marks of eligibility will be 45% or equivalent grade).
13. In case of candidates who are studying in university /Board/College/Schools in any of the foreign countries the eligibility /Qualifying marks will be the same as recognized equivalent to 10+2 by the



university or the association of the Indian university with 50% marks or equivalent grade (for SC/ST candidates, eligibility will be 45% marks or equivalent grade).

14. The candidates who have appeared in the qualifying examination but whose result has so far not been declared can also apply but his/her eligibility for the entrance test will be purely provisional subject to the condition that he /she has to produce a passing certificate scoring at least the minimum percentage of marks as prescribed for the qualifying examination on the day and the specified time of counselling.
15. The candidates shall not be more than 22 years of age as of 1<sup>st</sup> July of the year of admission. Date of birth as recorded in the Secondary Education Board /University Certificate only will be considered as authentic.

### Fee Structure (Microbiology) 1,2& 3<sup>rd</sup> Year

Consolidated Fee	Rs.40, 000/-
PTA Fund	Rs.200/-
Library Security	Rs.500/-
Counselling Fee	Rs.500/-
University Development Fund	Rs.500/- Rs.250/ Rs.100/-
For Non. Sub /Sub/IRDP/BPL	
As Per HPU Notification)	

**\* The tuition fee and other monthly/Semester charges will be as per university rule**

- The above fee and funds are subject to change as per HPU/HP Govt. instructions.
- The fee for 1<sup>st</sup> Semester is charged in full at the time of admission.
- Fee once deposited shall not be refunded.

**Note: Rs. 500/- will be charged for readmission**

### Eligibility Conditions for regularization of admission:

B.Sc. (Hons.) Biotechnology & B.Sc. (Hons.) Microbiology Second and Third Year

B.Sc. II - A Candidate should have passed at least 50% of the papers of the First-year Examination.

B.Sc. III - A candidate should have passed at least 50% of the papers of the Second Year Examination and all the papers of the First Year Examination.

**\*The above fee and funds are subject to change as per HPU/HP Govt. instructions.**

- From 2<sup>nd</sup> and 3<sup>rd</sup> year studentfees will be charged in two instalments i.e. at the time of admission and 75% at the time of regularization of admission.
- Fee once deposited shall not be refunded.

## **Scheme of Examination for B.Sc. (Hons.) Biotechnology and B.Sc. (Hons.) Microbiology 3<sup>rd</sup> Year**

### **Internal Assessment**

There shall be a component of internal assessment in all the classes. It will be 20% for theory papers and 30% for practical. The remaining 80% and 70% marks in theory and practical will be for the annual university examination.

The split of the 15% marks of internal assessment will be as per the details given below:

- I. Assignment, one: 02 marks
- II. Presentation: 03 marks
- III. Class tests (2), half hours each: 05 marks
- IV. Final House Test: 05 marks

The award of marks for attendance i.e. 5 marks will be as follows:

Less than 75%	not eligible
75% to 79% Attendance	1 mark
80% to 82% Attendance	2 marks
83% to 85% Attendance	3 marks
86% to 88% Attendance	4 marks
89% and more Attendance	5 mark

### **House Examination**

House Examination shall cover ordinarily around two-third of the syllabus in each paper and shall follow the same format as that of the University Examination in all respects including the format of question papers, the time duration for each paper, and maximum marks allotted to each paper. The marks obtained shall be scaled down to 5%. If there are fractions in the marks obtained in any paper as a result of scaling down or otherwise, these shall be carried as such and shall not be converted into whole numbers. Conversion of fractions into whole numbers shall be done at the final stage of calculating internal assessment..

### **Eligibility conditions to appear in the annual examination**

- 75% attendance is compulsory in theory and practical.
- 75% attendance is mandatory in seminars and submission of assignments.
- It shall be mandatory for all the students to appear in the House Examination. A minimum of 20% marks in each subject or 25% in aggregate shall be an essential condition to be eligible to appear in the annual examination.
- It shall also be mandatory to participate in the activities of subject societies.

- The University annual examination form shall be treated as provisional unless and until the eligibility criteria as mentioned above for appearing in the annual examination are fulfilled by the candidate and a certificate to this effect is given by the Principal.
- (For determining the eligibility, 0.5% and above shall be considered as one percent.)

### **Rules of admission for outstanding sportswomen and outstanding students in cultural activities**

- Admission against quota meant for outstanding sportswomen and outstanding students in cultural activities shall be made only once in the beginning of the session. These students must also qualify for the minimum eligibility conditions for admission in that course as provided under the rules.
- Original certificates will be verified at the time of admission.
- Only those students will be considered for the sports quota who have participated in the District/ State/ National level tournaments.
- Only those students who have secured 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> position in the District/ State /National level in cultural events will be considered for the quota meant for outstanding students in cultural activities.
- It will be mandatory for these students to participate in sports/ cultural events.

### **Leave Rules For Students**

- A student can proceed on leave with prior permission from the subject teachers & the committee formed for the purpose, but the application should be signed by her parent or guardian.
- The Co-ordinator can sanction leave up to 10 days while leave for more than 10 days will be sanctioned by the committee constituted for the purpose. Leave application must be submitted in the office.
- Leave on account of illness, if it is for more than 5 days, must be accompanied by a Medical Certificate/Registration slip.
- A student may proceed on any kind of leave but she must deposit his/her fees/fines on the appointed day. Otherwise, her admission will be cancelled. Similarly, she is also required to return the book on a fixed day.
- Students, who go for participate in various inter-college games or other competitions, will have to get their leave sanctioned & noted by the concerned subject teachers before their departure for participation leave will be granted during the House Examination & exemption of any kind will not be permissible.

### **Identity Card**

- A student without an identity card is deemed an outsider.
- A student is not permitted to replace her photograph on the identity card.
- A student must keep her identity card (duly signed by the Principal) with her while on the college campus.
- Without an identity card no one is allowed to enter the college premises.
- In case the identity card is lost, a duplicate card will be issued only after an FIR is registered with the nearest police station and an original copy of this FIR is appended with such request.

Note: For general details go through the Common Prospectus of BA/B.Sc/B.com