

**Dr YASHWANT SINGH PARMAR UNIVERSITY OF
HORTICULTURE & FORESTRY
NAUNI-SOLAN (HP) -173 230**

PROSPECTUS

ACADEMIC SESSION 2022-23



FOR ADMISSION

TO

UNDERGRADUATE PROGRAMMES

Detail of fee for submission of online form

Fee payable by the candidates during the submission of application form

Category	Amount (in Rs)		
	Normal Seat (a)	Self-financing Seat (b)	Both (a and b)
Unreserved	1300	1300	2000
SC/ ST/ Physically Challenged/ Third gender	800		1500

Note: In case, the candidate is willing to be considered for both the seats (Normal and Self-financing seat) he/ she is required to select the appropriate option in the online application form.

IMPORTANT DATES
(Normal Seats – Only for HP Domicile Candidates)
(Self-financing Seats – Open for All at National Level)

Sr. No.	Particulars	Dates for Normal Seats	Dates for Self-financing Seats
1.	Last date of submission of online application form	16.08.2022	27.08.2022
2.	Date of Entrance Test	21.08.2022	-
3.	Date of declaration of result	26.08.2022	-
4.	Date of 1 st Counselling in offline mode	01.09.2022	02.09.2022
5.	Date of 2 nd Counselling in offline mode	08.09.2022	09.09.2022
6.	Commencement of Classes	13.09.2022	13.09.2022
7.	Date of 3 rd Counselling in offline mode	26.09.2022	27.09.2022

Note:

- i) Any change in the date of receipt of application form and counselling schedule, will be uploaded on the university website www.yspuniversity.ac.in. The candidates are advised to remain in regular touch with university website till the completion of admission process.
- ii) For any clarification/ inquiry with regard to admission, please contact the Assistant Registrar/ Superintendent (Academic), Office of the Registrar, Dr Y S Parmar University of Horticulture & Forestry on any working day from 10.00 AM to 5.00 PM on ☎ 01792–252009 and 01792-252219 or submit queries through **E-mail: admission@yspuniversity.ac.in**
- iii) The candidates are advised to read the prospectus carefully before applying online for admission.
- iv) Normal seats are reserved for Himachali bonafide candidates only, whereas, self-financing seats are open for all at National level.
- v) The candidate who is willing to be considered for both the seats (Normal and Self-financing Seat) he/ she is required to select the appropriate option in the online application form.
- vi) Venue of Councellings will be Dr. L.S.Negi Auditorium located in the main campus of the University at Nauni.

DISCLAIMER

1. The information contained in this Prospectus is of general nature for the candidate's seeking admission in various Undergraduate Degree Programmes of the University. It is neither an exhaustive nor a legal document. The information contained herein is believed to be correct at the time of publication. However, the University reserves the right to make any alteration without any notice in the provisions made in the prospectus, whereupon, the University will not be responsible for any hardship or expense incurred by any student or any other person for such changes, additions, omissions or errors, no matter how they are caused.

2. Candidates are advised to refer to the Academic Regulations and other Statutory/ Administrative provisions applicable at a particular point of time on various aspects, viz., system of education, residence in the University hostels, enrolment in the NCC/ NSS, award of Scholarships/ Stipends, Fellowships, Medals, Certificate of Merit, Conduct of the students in the University, etc. They should also note that the provisions of the Act, Statutes and Academic Regulations or any other legal/ administrative notifications, orders, instructions and fee structure can be changed by the Competent Authority at any time without any prior notice.

CHAPTER- I

GENERAL INFORMATION

1.1 Historical Background

Dr. Yashwant Singh Parmar University of Horticulture and Forestry, Nauni, Solan, was established on 1st December, 1985 with the objective to promote education, research and extension education in the fields of horticulture, forestry and allied disciplines. Late Dr. Yashwant Singh Parmar, the 1st Chief Minister and the architect of Himachal Pradesh perceived the importance of horticulture and forestry to develop and improve the State economy which led to the establishment of this University. Its history lies in erstwhile Himachal Agricultural College, Solan, established in 1962 and affiliated to the Panjab University, Chandigarh. It became one of the Agriculture campus of Himachal Pradesh University, Shimla on its formation in 1970. Consequent upon the establishment of Himachal Pradesh Krishi Vishvavidyalaya, Palampur in 1978, this campus became its Horticulture Complex and finally in 1985, assumed the status of a State University, being the only University in the country engaged exclusively in teaching, research and extension in horticulture and forestry.

The University is located at Nauni in Solan district of Himachal Pradesh, 13 km from Solan on Solan-Rajgarh road between Chandigarh-Shimla. Solan town is situated on national highway and is well connected by train and bus services.

The University has four constituent colleges namely:

Sr. No.	Name of the Colleges	Year of Establishment	Situated at	Elevation
1.	College of Horticulture	1985	Main Campus Nauni	1275 metres above mean sea level
2.	College of Forestry	1987	Main Campus Nauni	-do-
3.	College of Horticulture and Forestry, Neri, Hamirpur	2010	Neri, District Hamirpur	786 metres above mean sea level
4	College of Horticulture and Forestry, Thunag, Mandi	2019	Thunag, District Mandi	2150 metres above mean sea level

Two colleges namely College of Horticulture and College of Forestry are located at the main campus of Dr Y S Parmar University of Horticulture and Forestry at Nauni, Solan. The third College is located at Neri in Hamirpur District on the link road on Nadaun-Hamirpur state Highway about 9 kms from Hamirpur town and is well connected with bus service. The college offers three undergraduate degree programmes i.e. B.Sc. (Hons) Horticulture, B.Sc. (Hons) Forestry and B.Tech. Biotechnology and M.Sc. degree programmes in a few subjects. The fourth college is located at Thunag, District Mandi about 100 kms from Mandi town. This college offers undergraduate degree programmes in B.Sc. (Hons) Horticulture and B.Sc. (Hons) Forestry. In addition, there are five Regional Research Stations, 12 Satellite Stations and five Krishi Vigyan Kendra (KVKs) situated at different zones of the State.

1.2. System of Education

The University follows the semester system of education which requires continuous hard work and regularity on the part of the students in the classes throughout the semester.

The education aims at an all-round development of the student for which the University provides all necessary facilities. Emphasis is laid on high academic standards and discipline. The University also provides facilities for different games, sports, and other co-curricular activities (literary, cultural, hobby development, etc.). These activities are looked after by the Students' Welfare Organization.

1.3 Faculty and Infrastructure

1.3.1 Faculty

The University has adequate faculty of teachers/scientists catering to the needs of teaching, research and extension education activities.

1.3.2 Laboratories and Research Farms

The colleges have well equipped laboratories and class rooms with state of art instruments and teaching aids. Separate laboratories for conducting undergraduate practicals are available besides postgraduate laboratories catering to latest research. Being farm University, it has a vast experimental area at the main campus of about 550 hectares provided with modern facilities like polyhouses, glass houses, mist chambers, sprinklers/drip irrigation system, precision farming etc. Besides, herbal garden and demonstration area serve as effective live tools for easy learning.

1.3.3 Satyanand Stokes Library

The University library named after Satyanand Stokes which has the credit of being a pioneer in introducing latest information technology to automate library services. It initiated computerized operations as early as in April 1989 and its whole collection has been computerized for electronic retrieval by creating in-house databases, providing access to national and international databases available on CD-ROM and online catalogue which is electronically accessible. This is the first SAU library in the country which has been converted into a *Wi-Fi* library in 2003-04. The scientists/ teachers and students have been given electronic access to 2000 + e-journals through CERA: Consortium for e-resources in Agriculture. Besides this, 120 journals are subscribed in hard copy form. All the PhD Theses with effect from 2000 onwards have been digitized under the ICAR Krishi Prabha Project and are available on-line. The Library is centrally located and housed in a beautiful building that offers an excellent environment for study. The library has a unique collection of 70000 books in the field of Horticulture, Forestry and allied subjects. For linking the Regional Research Stations of the University with the library, the connectivity facilities have been established in all the Regional Stations of the University so that the scientist/ staff working there can access the latest information and be in a position to communicate fast through E-mail. The library offers PGS-501 course 'Library and Information Services' of 0+1 credit hours.

1.3.4. Computer Centre and Information Network

The University has a separate Computer Centre which provides information technology facilities to all staff and students besides connectivity to National Network under Agricultural Research Information System (ARIS) of ICAR. All academic departments and offices within the campus have connectivity through Local Area Network for resource sharing and exchange of information. It is on global network through Internet and E-mail

facilities. In addition, each college has full-fledged “Education Technology Cell” providing free internet service to all the students.

1.3.5. Students Welfare Activities

The Students’ Welfare Organization of the University attends to the residential requirements, sports, cultural/ co-curricular activities, NCC/ NSS and medical care of the students.

1.3.5.1. Hostels

The University has 17 hostels at the main campus comprising of six for boys, 10 for girls and one international hostel for foreign national students. Each hostel has a common room equipped with TV, facilities for indoor games and a badminton court. Important newspapers and magazines are also subscribed for general reading of the students. The accommodation in the hostels is being allotted purely on the basis of merit subject to its availability.

In the constituent colleges i.e. College of Horticulture & Forestry-Neri (Hamirpur) there are two girls hostel and one boys hostel while at College of Horticulture & Forestry-Thunag (Mandi) there is one hostel for girls which is currently hired from the Panchayati Raj Department.

However, Persons with Disability will be provided hostels on priority as per hostel nomenclature i.e. Boys hostel and Girls hostel.

1.3.5.2. Other Welfare Activities

The University has a placement cell for career counselling and a big playground where facilities for outdoor games and sports exist alongwith one gymnasium. Dr. L.S. Negi Auditorium serves as a facility for various students’ activities. The students are encouraged to participate in District, State and Inter-University Competitions. The campus has facilities of well-equipped health centre, student centre, shopping centre, banks, post office, ATM etc.

NCC/ NSS, sports and games are compulsory for all undergraduate students. However, the foreign national students and in-service students are exempted from NCC. Physical education is compulsory, except for in-service students.

1.4. Academic Programme

The undergraduate programmes i.e. BSc (Hons.) Horticulture, BSc (Hons.) Forestry and BTech Biotechnology are of 4 academic years (8 semesters) duration. The academic session comprises two semesters each of 21 weeks with two semester breaks. NCC/ NSS camps and educational tours are organized during the semester break.

1.5. Financial Assistance

The following financial assistance is provided:

- i) ICAR National Talent Scholarship of Rs.3000/- PM.
- ii) College Merit Scholarship of Rs. 1000/- PM (10% of the enrolment in each class).
- iii) Dr. OP Awasthi Memorial Merit Scholarship for one boy student of BSc (Hons.) Horticulture, College of Horticulture, Solan (Nauni) of Rs.500/- per month.

- iv) Mrs. Kanti Devi Awasthi Memorial Merit Scholarship for one girl student of BSc (Hons.) Horticulture, College of Horticulture, Solan (Nauni) of Rs.500/- per month.
- v) Government of India scheduled caste/ tribe and low income group stipend through State Education Department. The value of stipend is equivalent to the tuition and other fee.
- vi) Interest free loan for SC/ ST students from H.P. Scheduled Castes and Tribes Development Corporation.
- vii) District Soldier Board stipend (amount of stipend is variable).
- viii) UGC scholarships to the students from Scheduled Castes/ Scheduled Tribe, Other Backward Classes, Persons with Disability category.

1.6. Medals

- i) Gold Medals awarded to toppers at University level according to the provision of Academic Regulations:
 - a. BSc (Hons) Horticulture
 - b. BSc (Hons) Forestry
 - c. B.Tech. Biotechnology
- ii) Puran Anand Adlakha Gold Medal to all round best graduate of the University.

1.7. Certificate of Merit

Certificate of Merit to the students securing an OGPA of 7.50/ 10.00 and above.

1.8 Social Media accounts of YSP UHF Nauni

The university has official accounts on different social media platforms like Facebook, Youtube, Twitter and LinkedIn. Many of these accounts carry important information related to the university and the Facebook pages and Youtube channel in particular also carry important technical videos on different topics which can prove to be helpful.

The links are as follows

Youtube: <https://www.youtube.com/channel/UCIh2vYzR4tUdShW4y7Wx-jw>

Facebook page- Dr YS Parmar University of Horticulture and Forestry, Nauni

<https://www.facebook.com/UHFNauniOfficial>

Facebook page- UHF Kisan Sewa

<https://www.facebook.com/uhfkisansewa>

Twitter

<https://twitter.com/Nauniuniversity>

LinkedIn

<https://www.linkedin.com/in/uhf-nauni-634bb5152/>

CHAPTER-II

PROGRAMME OF STUDIES AND INTAKE CAPACITY

The programmes of studies and intake capacity of different programmes in four colleges of the university has been given below:

2.1 College of Horticulture, Solan (Nauni)

Programme	Number of Seats		
	HP Quota	ICAR	Self-financing
BSc (Hons.) Horticulture	42	08	50+4*+2**

*Seats meant for candidates belonging to North-eastern region

**Seats meant for candidates belonging to J&K UT

2.2 College of Forestry, Solan (Nauni)

Programme	Number of Seats		
	HP Quota	ICAR	Self-financing
BSc (Hons.) Forestry	42	08	50+4*+2**

*Seats meant for candidates belonging to North-eastern region

**Seats meant for candidates belonging to J&K UT

2.3 College of Horticulture & Forestry, Hamirpur (Neri)

Programme	Number of Seats		
	HP Quota	ICAR	Self-financing
BSc (Hons.) Horticulture	25	5	30
BSc (Hons.) Forestry	25	5	30
B Tech Biotechnology	25	-	25

2.4 College of Horticulture and Forestry, Mandi (Thunag)

Programme	Number of Seats	
	HP Quota	Self-financing
BSc (Hons.) Horticulture	25	25
B Sc (Hons) Forestry	25	25

2.5 Additional Seats (Over and above the intake capacity)

Programme	Number of Seats		
	Wards of serving/ retired CAPFs Personnel	Single Girl Child	Sports and Co-curricular activities
College of Horticulture, Solan (Nauni)			
BSc (Hons.) Horticulture	2	1	1
College of Forestry, Solan (Nauni)			
BSc (Hons.) Forestry	2	1	1
College of Horticulture & Forestry, Hamirpur (Neri)			
BSc (Hons.) Horticulture	1	1	1
BSc (Hons.) Forestry	1	1	1
BTech Biotechnology	1	1	1
College of Horticulture and Forestry, Mandi (Thunag)			
BSc (Hons.) Horticulture	1	1	1
BSc (Hons.) Forestry	1	1	1

2.6 Seats to be filled without entrance test (Over and above the intake capacity)

Programme	Number of Seats	
	NEC Nominees	Nominees of H.P. Forest Department
I. College of Horticulture, Solan (Nauni)		
BSc (Hons.) Horticulture	4	-
II. College of Forestry, Solan (Nauni)		
BSc (Hons.) Forestry	4	3
III. College of Horticulture & Forestry, Hamirpur (Neri)		
BSc (Hons.) Forestry	-	3
IV. College of Horticulture and Forestry, Mandi (Thunag)		
B Sc Horticulture	2	-
B Sc Forestry	2	2

2.7 Break-up of the number of normal seats (category-wise and college-wise)

2.7.1 College of Horticulture, Solan (Nauni)

Non-Rural	No. of Seats	Rural	No. of Seats
UR	9	UR	8
UR-PH	1	UR – Wards of Serving/ Ex-service man	1
UR-Wards of Serving/ Ex-service man	2	EWS	2
EWS	2	OBC	2
OBC	2	OBC-Wards of Serving/ Ex-service man	1
SC	3	OBC-IRDP/BPL	1
SC-Wards of Serving/ Ex-service man	1	SC	3
ST	1	SC-IRDP/BPL	1
-	-	SC-PH	1
-	-	ST-Wards of Serving/ Ex-service man	1
Total	21	Total	21
Over and above the intake capacity			
Wards of Serving /retired CAPFs Personnel	2	Single Girl Child	1
Sports and Co-curricular activities	1		

2.7.2 College of Forestry, Solan (Nauni)

Non-Rural	No. of Seats	Rural	No. of Seats
UR	8	UR	7
UR-Wards of Serving/ Ex-service man	2	UR-Wards of Serving/ Ex-service man	1
UR-WFF	1	UR-PH	1
EWS	2	EWS	2
OBC	1	OBC	2
OBC-IRDP/BPL	1	OBC-Wards of Serving/ Ex-service man	1
OBC-PH	1	SC	4
SC	3	SC-IRDP/BPL	1
SC-Wards of Serving/ Ex-service man	1	ST-IRDP/BPL	1

ST	1	-	-
Total	21	Total	21
Over and above the intake capacity			
Wards of Serving/ retired CAPFs Personnel	2	Single Girl Child	1
Sports and Co-curricular activities	1		

2.7.3 College of Horticulture & Forestry, Hamirpur (Neri)

i) B.Sc. (Hons.) Horticulture

Non-rural	No. of Seats	Rural	No. of Seats
UR	4	UR	7
UR-Wards of serving/ Ex-service man	1	UR-Wards of serving/ Ex-service man	1
UR-PH	1	UR-PH	1
EWS	2	EWS	1
OBC	2	SC	2
OBC-IRDP/BPL	1	SC-Wards of serving/ Ex-service man	2
SC	1	OBC	1
SC-IRDP/BPL	1	-	-
SC-WFF	1	-	-
ST	1	-	-
Total	15	Total	15
Over and above the intake capacity			
Wards of Serving /retired CAPFs Personnel	1	Single Girl Child	1
Sports and Co-curricular activities	1		

ii) B.Sc. (Hons.) Forestry

Non-rural	No. of Seats	Rural	No. of Seats
UR	6	UR	6
UR-Wards of serving/ Ex-serviceman	1	UR-Wards of serving/Ex- service man	1
EWS	1	EWS	2
OBC	2	OBC	1
OBC-Wards of serving/ Ex-service man	1	OBC-IRDP/BPL	1
SC	1	SC	3
SC-IRDP/BPL	1	ST-Wards of serving/ Ex- service man	1
SC-PH	1	-	-
ST	1	-	-
Total	15	Total	15
Over and above the intake capacity			
Wards of Serving/ retired CAPFs Personnel	1	Single Girl Child	1
Sports and Co-curricular activities	1		

iii) B.Tech. Biotechnology

Non-rural	No. of Seats	Rural	No. of seats
UR	4	UR	6
UR-Wards of serving/ Ex-service man	2	EWS	1
UR-WFF	1	OBC-IRDP/BPL	1

EWS	1	SC	1
OBC	1	SC-Wards of serving/ Ex-service man	1
OBC-PH	1	SC-IRDP/BPL	1
SC	3	ST	1
Total	13	Total	12
Over and above the intake capacity			
Wards of Serving/ retired CAPFs Personnel	1	Single Girl Child	1
Sports and Co-curricular activities	1		

2.7.4 College of Horticulture and Forestry, Mandi (Thunag)

i) B.Sc. (Hons.) Horticulture

Non-rural	No. of Seats	Rural	No. of seats
UR	3	UR	3
UR-Wards of serving/ Ex-service man	2	UR-Wards of Serving/ Ex-service man	2
EWS	2	UR-PH	2
OBC	1	EWS	1
OBC-Wards of serving/ Ex-service man	1	OBC	2
SC	3	SC	1
ST-IRDP/BPL	1	SC-WFF	1
Total	13	Total	12
Over and above the intake capacity			
Wards of Serving/ retired CAPFs Personnel	1	Single Girl Child	1
Sports and Co-curricular activities	1		

ii) B.Sc. (Hons.) Forestry

Non-rural	No. of Seats	Rural	No. of seats
UR	3	UR	3
UR-Wards of serving/ Ex-service man	2	UR-Wards of serving/ Ex-service man	2
EWS	2	UR-PH	2
OBC	1	EWS	1
OBC-Wards of serving/ Ex-service man	1	OBC	2
SC	3	SC	1
ST-IRDP/BPL	1	SC-WFF	1
Total	13	Total	12
Over and above the intake capacity			
Wards of Serving/ retired CAPFs Personnel	1	Single Girl Child	1
Sports and Co-curricular activities	1		

NOTE:

- (i) One supernumerary seat each has been created in all the UG programmes of all the constituent colleges of this University for the wards of Kashmiri Migrants which will be filled on the basis of marks obtained at 10+2 level in four subjects viz., English, Physics, Chemistry and Biology/ Mathematics.

- (ii) One supernumerary seat each has been created in all the UG programmes of all the constituent colleges of this University for the wards of Kashmiri Pandits/ Kashmiri Hindu families (Non-migrants) which will be filled on the basis of marks obtained at 10+2 level in four subjects viz., English, Physics, Chemistry and Biology/ Mathematics.

2.7.5 Detail of reservation of seats

Admission shall be open to all eligible candidates subject to the reservation of seats as under:

- ICAR quota seats shall be filled up by the ICAR (Indian Council of Agricultural Research) New Delhi.
- Normal seats shall be reserved only for the bonafide Himachali candidates. The same shall be filled up in the following manner:-

50% of normal seats are reserved for the candidates belonging to **rural area*** and remaining 50% seats shall be open for other bonafide Himachali candidates.

Rural Area * A bonafide himachali candidate passing his/her at-least two examinations (8th class, 10th class, 12th class) out of three examinations from a **government school affiliated to Himachal Pradesh Board of School Education (HPBOSE)** located outside the limits of Municipal Corporation/ Municipal Council/ Nagar Panchayat/ Cantonment Board/ Notified Area Committee within the territorial jurisdiction of Himachal Pradesh.” He/she has to produce the certificate duly issued by the Principal/ Head Master of the School as per Annesure-IV.

Further, under both categories (Rural and Non-rural) of Bonafide Himachali, the gist of reservation of seats is as under:

Vertical Reservation	SC: 22%	ST: 5%	OBC (Non-creamy layer): 15%	EWS: 10%
Horizontal Reservation	Ex-man/Ward of Ex-man: 15%	Physically challenged: 5%	IRDP: 15%	WFF-2%

Note:

- In case of non-availability of candidate in a specified category of reservation, the seat shall be transferred from one category to another during 3rd counselling as under:
 - In case a particular horizontal category is not available, the seat will be transferred to the same vertical category e.g. in case of non-availability of SC Ex-man, the seat will be transferred to SC (General) category.
 - In case, a particular vertical category is not available the seat will be transferred to UR (General) category.
- In case the candidates in rural category are not available, then the remaining seat(s) under rural category shall be made open for respective non-rural bonafide Himachali candidates in the 2nd counselling in the same category.

3. Candidates against the seats reserved for wards of Kashmiri migrants have to furnish certificate of origin/ domicile certificate issued by the District Magistrate/ Tehsildar.
4. Candidates against the seats reserved for wards of Kashmiri Pandit/ Kashmiri Hindu Families (Non-migrants) living in Kashmir Valley have to furnish certificate of origin/ domicile certificate issued by the District Magistrate/ Tehsildar.
5. The candidates having permanent disability of not less than 40% (low vision, hearing impairment, locomotor disability or cerebral palsy) shall be considered for reserve seats of physically challenged category.
6. Self-financing seats shall be open for all at National level.
7. The candidates admitted to self-financing seat shall not be shifted to normal seat under any circumstances once the admission process is over.
8. The seats in various colleges/ disciplines can be increased/ decreased keeping in view the availability of infrastructure and faculty.

CHAPTER-III

ADMISSION OF NORMAL / SELF FINANCING SEATS

3.1 Minimum Qualification/Eligibility

Candidates who have passed 10+2 or equivalent examination with English, Physics, Chemistry, Biology/ Mathematics from a recognized Board with a minimum of 50% aggregate marks (45% marks in case of SC/ ST/ Physically Challenged category candidates/ in-service nominees of Himachal Pradesh Government) in the above subjects.

OR

Candidate should have passed Examination of a University/ Board/ College/ School in a foreign country recognized by the Academic Council as equivalent to 10+2 with science subjects mentioned above provided the candidate has obtained at least 60% aggregate marks or 'B' grade/equivalent.

3.2 Submission of Online Application Form (UG-2022)

Normal Seats and Self-financing Seats: All the desirous candidates are required to apply online within due date by accessing university website www.yspuniversity.ac.in.

Note: Application form submitted as hard copy will not be considered.

3.3 Criteria for admission

3.3.1 Normal Seats: The score obtained in the entrance test to be conducted by the University on 21st August, 2022 will be considered. **The candidates having secured less than 45 marks in the entrance test (UGET-2022) shall not be considered for appearing in the counselling process.**

The syllabus of the Entrance Test is given in Annexure-I of this Prospectus. In case two or more candidates obtain the same score, the candidate with highest percentage at qualifying examination i.e. 10+2 level shall be considered for admission. In case tie still occurs, the elder in age will be considered for admission.

3.3.2 Self-financing seats: The score obtained at 10+2 level in four subjects viz., English, Physics, Chemistry and Biology/ Mathematics will be considered. In case two or more candidates obtain the same score, the elder in age will be considered for admission.

3.3.3 Sport and Co-curricular activities seat (For Normal Seat Only): Eligibility criteria will be the same as for other candidates under normal seats, applying for UG degree programmes. The merit of candidates shall be determined on the basis of aggregate score in different sports and co-curricular activities during last three academic years (upto 31st July, 2022) as per weightage of different activities given in the Table **3.3.3.1**. Only one sports and co-curricular activity certificate which is most beneficial to the candidate (highest score) per year will be considered. If the candidates have equal aggregate marks under sports category, a candidate with higher marks obtained in the entrance test to be conducted by the University on 21st August, 2022 shall be placed in higher merit list. In case two or more candidates obtain the same marks, the candidate with highest percentage of marks in qualifying examination i.e. 10+2 level shall be considered for admission. In case tie still occurs, the candidate elder in age will be considered for admission. These seats will be filled in the 3rd

counselling on the basis of merit from amongst all the candidates having appeared for these seats in the 1st, 2nd and 3rd counselling.

NOTE: The seats exclusively reserved for participation in sports/ co-curricular activities will be filled in the 3rd counselling taking into consideration the merit of all such candidates appearing before the Counselling Committee in the 1st to 3rd counselling.

3.3.3.1 Weightage of various activities (only applicable for the candidates being considered for sports and co-curricular activities seat)

Sr. No.	I. SPORTS/ GAMES/ CULTURAL/ EXTRA-CURRICULAR ACTIVITIES	Weightage of marks
1	Participant who has represented India in International Competition and obtained 1 st , 2 nd or 3 rd position	5
2	Participant who has represented India in International Competition	4
3	Participant who has represented the state/ School team in National Competition and obtained 1 st , 2 nd or 3 rd position	3
4	Participant who has represented the state/ School team in National Competition	2
5	Participant who has represented the district/ School team in State/ Cluster Competition and obtained 1 st , 2 nd or 3 rd position	2
6	Participant who has represented the School team at Zonal Competition and obtained 1 st , 2 nd or 3 rd position	2
7	Participant who has represented the School team at Zonal Competition	1
8	Participant who has represented his/ her college in University level Competition and obtained 1 st , 2 nd or 3 rd position	1
II	NCC	
1	Participated in National Republic Day Parade and have “B” certificate	3
2	Participated in National Republic Day Parade and have “A” certificate	2
3	Having “A or B” Certificate	1
III	SCOUTING	
1	Participated in Jamboree at National Level organized by Government of India.	2
2	Participated in Jamboree at State Level organized by Government of India.	1
IV	NSS	
1	Participated in National Integration Camp or National Mega Camp of minimum 7 days duration organized by the Govt of India outside the state	2
2	Participated in National Integration Camp or National Mega Camp of minimum 7 days duration organized by the Govt of India within the state	1

Provided that:

1. The above weightage can be availed of only once and only when the position obtained/ participation made is not earlier than three academic years preceding the year of admission.
2. Only one of the above weightage, which is the most beneficial to a candidate, shall be allowed while determining relative merit.

3. The games/ sports should have been organized by the Sports Authority of India/ Indian Olympic Association/ All India School Games Federation/ State Government.
4. Sports/ games/ cultural activities (literary activities and fine art) recognized by the Government of Himachal Pradesh will only be recognized by the Dr Y S Parmar University of Horticulture & Forestry for giving weightage in admissions to various programmes.
5. In case two or more candidates obtain the same percentage of marks, the candidate with highest marks at qualifying examination i.e. B.Sc. degree level shall be considered for admission. In case tie still occurs, the elder in age will be considered for admission.
6. The merit of the candidates will be determined keeping in view the reservation of various categories of seats.

Provided that:

The sports/ games/ cultural/ extra-curricular activities should have been organized by any one of the following agencies/ bodies:-

- i) International Sports Federation-affiliated with International Olympic Association
- ii) All sports Federations of India-affiliated with Indian Olympic Association
- iii) All States Sports Associations- affiliated with State Olympic Association
- iv) All District Sports Associations- affiliated with District Olympic Association
- v) State Sports Council/State Youth Welfare and Sports Department
- vi) National School Sports Federation of India
- vii) State School Sports Association
- viii) District School Sports Association
- ix) Navodaya Vidyalaya, Kendriya Vidyalaya, Army/ Sainik School, ICSE, CBSE school sports
- x) Sports Authority of India

All sports / games/ cultural/ extra-curricular activities recognized by Association of Indian Universities (AIU)/ Indian Agricultural University Association (IAUA) /ICAR/ Himachal Govt. will only be recognized by Dr YS Parmar University of Horticulture and Forestry. No sports/ cultural activities organized by NGO's (Government/ Non-government) will be entertained.

List of recognized games/ sports and cultural & co-curricular activities

<p>I. Names of games /Sports</p> <p>Archery, Athletics (Track and Field Events), Badminton, Basketball, Baseball, Boxing, Billiards, Body Building, Bridge, Carrom, Chess, Cricket, Cycling, Equestrian sports, Fencing, Football, Golf, Gymnastics, Handball, Hockey, Indoor Cricket, Judo, Kabaddi, Karate, Kayaking and Canoeing, Kho- kho, Korfball, Lawn Tennis, Netball , Motor Sports, Polo, Power Lifting, , Rifle Shooting, Roller Skating , Rowing, Softball, Squash, Swimming, Table Tennis, Taekwondo, TenniKoit, Throwball, Volleyball, Veteran Athletics, Weightlifting, Wrestling, Winter Games (Ice skating, Skiing), Wushu, Yatching Rope skipping, Aerobics and Yoga .</p>
<p>II. Names of Music : Cultural and Co-Curricular Activities</p> <p>Vocal Indian Classical, Indian Light Vocal, Indian Patriotic Song, Indian Group Song, Folk Song, Instrumental Music : Harmonium light, Flute playing, Tabla playing, Traditional musical instruments playing Dance : Literary Theatre Fi ne Arts Solo Folk Dance, Group Folk Dance, Kathak, : Quiz, Elocution, Debate, Extempore One Act Play, Skit, Mime, Mono Acting , Play : Sitar playing, On the spot Painting, Collage, Poster Making, Clay Modeling, Cartooning, Rangoli</p>

3.4 List of candidates

The merit list of candidates shall be drawn on the basis of score obtained in the entrance test (UGET-2022) conducted by this University.

3.5 Counselling

Counselling shall be conducted as per the procedure mentioned in the Chapter VI of this prospectus. However, it will be mandatory for all the candidates who are called for attending the offline counselling(s) to fill and deposit the counselling proforma to be supplied at the time of attendance in the counselling hall and alongwith all relevant documents.

3.6 Requirements for admission/ registration

Provisional allocation of the available seats will be made during offline counselling in order of merit-cum-preference order of the degree programme and college. If the selected candidate does not present himself/ herself before the Dean of the concerned college within the stipulated date and time as laid down in table (Important Dates), he/she will not have any claim for the allotted seat and the same will be offered to next candidate in the merit during subsequent counselling. The following certificates and photographs are required at the time of admission/ registration:-

1) Certificates

Copies of self-attested certificates are required at the time of admission/ registration alongwith original certificates:-

- i) 10th certificate (for date of birth)
- ii) 10+2 detail of marks certificate
- iii) Character certificate
- iv) HP bonafide/ domicile certificate
- v) Medical Fitness Certificate
- vi) Migration Certificate
- vii) Gap period certificate/affidavit
- viii) The following certificates issued by the Competent Authority (wherever applicable)
 - a. Rural Area (As per format annexed)
 - b. SC/ ST/EWS/ OBC (Non-creamy Layer) etc.
 - c. IRDP/ BPL
 - d. Wards of serving/ ex-defence personnel.
 - e. Wards of serving/ retired CAPFs personnel.
 - f. Single girl child.
 - g. Sports/NCC/NSS/Scouts/ co-curricular activities certificates
 - h. Physically Challenged certificate
 - i. Any other certificates

2) Passport size photographs: Two

3) Details of certificates:

i) Certificate of participation in sports/cultural activities

Candidate shall have to submit the certificates of games/ sports/ NCC/ Scouting/ NSS/ Cultural and Co-curricular activities in case, he/ she is willing to be considered for admission for the seats reserved for participation in Sports/ cultural activities seats.

ii) Medical Fitness Certificate

Admission shall be subject to the applicant being declared medically fit by the Medical Officer of the University/ Medical Officer of the State Government Hospital. This certificate shall have to be submitted at the time of registration.

iii) Character Certificate

This certificate from Head of the School (Principal or equivalent) last attended is required at the time of counselling failing which he/ she will not be considered for admission. However, Chairman, Admission/ Seat allotment Committee may allow a candidate to consider in counselling subject to submission of an undertaking.

iv) Migration Certificate

Selected candidate/ admitted student is required to submit migration certificate within one year of admission, failing which his/ her admission shall be cancelled.

v) Physically Challenged Certificate

Candidate shall have to submit this certificate issued from a duly constituted and authorized medical board. Physically Challenged candidates having permanent disability of not less than 40% (Low vision, hearing impairment, locomotor disability or cerebral palsy) found suitable by the admission committee, provided the candidate is otherwise fit for admission. The candidates should be capable of performing the field operations, activities pertaining to Horticulture/ Forestry and allied disciplines.

3.7. Refusal of Admission

Candidate indulged in an act of indiscipline or guilty of having organized unlawful activities, he/ she will be refused admission by the admission committee. Such candidates as have been rusticated/ debarred shall not be admitted during the period of disqualification.

The Vice-Chancellor reserves the right to refuse admission to any candidate, whose admission in his opinion, is not in the interest of the University.

3.8. Advisement

Newly admitted student shall present himself/ herself to the Dean of the College on the day notified by the Registrar for advisement. Such student shall be assigned to staff advisor by Dean of the College. The advisor helps the student(s) in planning the programme of studies and also guides the student(s) in determining the credit load which he/ she can carry in each semester. Each advisor maintains a close contact with his/her advisee(s) and keep abreast of their progress.

3.9. Dress Code

Navy blue coat, sky blue shirt, navy blue sweater, blue tie, dark grey trousers, grey socks and black formal leather shoes. All students shall be in prescribed dress except on Wednesday and Saturday, guest lectures, industrial visits and interviews. No student will be allowed to attend the class without wearing prescribed dress.

CHAPTER-IV

PROCEDURE OF UNDERGRADUATE ENTRANCE TEST (UGET) - 2022

- 4.1 The entrance test will be conducted on scheduled date at the following centres:
- i) Solan
 - ii) Sunder Nagar
 - iii) Hamirpur
 - iv) Palampur
 - v) Rampur
- 4.2 Admit card will be auto-generated after successful submission of online application. In any case, the candidate does not find his/ her admit card, he/ she is advised to contact the helpline numbers immediately. In case of any difficulty, the candidate may contact the office of the Registrar through e-mail on ID: admission@yspuniversity.ac.in or on phone 01792-252009.
- 4.3 Candidates are expected to take their seats 15 minutes before the commencement of the test.
- 4.4 Candidate who does not possess the 'Admit Card' will not be allowed to enter the examination hall.
- 4.5 The duration of the test will be **2 hours**. Candidate who comes after 30 minutes of the commencement of the test shall not be allowed to appear in the test.
- 4.6 No candidate shall be allowed to leave the examination hall till the completion of the test.
- 4.7 Candidates shall not be allowed to carry any material inside the examination hall. Calculator, cell phone, electronic watches with facilities of calculator, slide rule, log tables, etc. are not allowed inside the examination hall.
- 4.8 The candidate shall forfeit the right of selection, in case of unfair means, impersonation, disturbance, misbehaviour, non-return of question book, OMR answer sheet, etc. The decision of the Centre Superintendent shall be final.
- 4.9 Eatables (Tea, coffee, cold drinks, snacks, etc.) will not be allowed inside the examination hall. Candidate using intoxicants shall not be allowed to enter the examination hall.
- 4.10 The dispute relating to entrance test will be subject to Solan jurisdiction.
- 4.11 There will be a composite question paper of 100 marks of two hours duration. The question paper will have four parts viz., 30 questions each in Physics, Chemistry and Biology/ Mathematics subjects and 10 questions shall of general awareness related to Agriculture. The outline of syllabus of Physics, Chemistry and Biology/ Mathematics subjects is given as Annexure-I.
- 4.12 The marks obtained in the entrance test will be uploaded on the University website (www.yspuniversity.ac.in) on scheduled date.
- 4.13 The candidate should remain in touch with the University website for further instructions regarding his/ her eligibility to attend the counselling and other related instructions.
- 4.14 No Separate letter will be issued for attending the counselling.
- 4.15 There will be no re-checking or re-evaluation of OMR answer sheet.

CHAPTER-V

GUIDELINES FOR ATTEMPTING THE QUESTION PAPER

- 5.1 The candidate will be provided with a question paper and an OMR answer sheet. The candidate will fill the roll number on the OMR answer sheet and mention choice for the relevant section(s). The candidate will write his/ her name and roll number at specified place on OMR answer sheet. The sample OMR answer sheet is annexed as per annexure-V.
- 5.2 The question paper for entrance test will be of objective type carrying 100 marks (30 questions each carrying one mark in Physics, Chemistry and Mathematics/ Biology subjects and 10 questions each carrying one mark shall be on general awareness related to Agriculture).
- 5.3 Each question has four responses marked as A, B, C and D and out of these only one is the most appropriate.
- 5.4 The answer sheet i.e. OMR Sheet will have 100 boxes numbered as per serial number of questions in the question paper. Candidate is to encircle the relevant box according to serial number of question with appropriate response i.e. A, B, C or D with ball point pen.
- 5.5 Scoring: Each question carries one mark and for each correct response the candidate will get one mark. More than one answer indicated against a question will be deemed as incorrect response. Erasing, cutting or overwriting is not allowed.
- 5.6 The candidate should not do any rough work on the answer sheet. All rough work is to be done in question paper itself or on the plain paper attached with it.
- 5.7 At the end of the examination, the candidate should return the question paper and answer sheet to the invigilator.

CHAPTER-VI

PROCEDURE FOR COUNSELLING (NORMAL/ SELF- FINANCING SEATS)

Candidates, who fulfil all the required qualification/eligibility mentioned in Chapter III and submitted the online counselling proforma alongwith all relevant documents will be eligible for appearing in the counselling process.

6.1 Counselling

Offline Counselling for all undergraduate programme will be carried out after preparation of merit list in Dr. L.S. Negi Auditorium located in the main campus at Nauni. Dates of different rounds of counselling has been mentioned in the IMPORTANT DATES. The candidates are advised to remain in touch regularly with the University website for counselling dates. No separate letter for any round of counselling will be sent to any candidate. No letter, FAX, or telephonic enquiry about the admission will be entertained.

6.1.1 Certificates required for counselling

- a) The eligible candidates are required to bring the following documents alongwith set of self-attested copies at the time of counselling
 - i. 10th certificate (for date of birth)
 - ii. 10 + 2 certificate.
 - iii. Character certificate from the school last attended (Compulsory for all)
 - iv. HP bonafide/ domicile certificate (compulsory for all HP candidates)
 - v. The following certificates issued by the Competent Authority(whenever applicable)
 - a. SC/ ST/ EWS/ OBC (Non-creamy Layer) etc.
 - b. Sports/NCC/NSS/Scouts/ co-curricular activities certificates (if applicable)
 - c. Physically Challenged certificate
 - d. Any other certificates
- b) There shall be three rounds of offline counselling.
- c) Provisional allocation of the available seats will be made in the offline counselling in order of merit-cum-preference order of the degree programme and college. If the provisionally selected candidate does not present himself/ herself before the Dean of the concerned college within the stipulated date and time as laid down in the notification, he/she will not have any claim for the allotted seat and the same will be offered to next candidate on the merit during subsequent counselling.

6.1.2 Certificates required for admission

The provisionally selected candidates appearing for registration should bring all relevant **original** documents/ certificates mentioned above alongwith a set of self-attested copies, copy of bank receipt of admission fee and two passport size photographs.

6.1.3 Other Instructions

- a) The provisionally selected candidate who brings incomplete set of original certificates at the time of document verification will not be considered for the admission.
- b) It is mandatory for the candidate to report for document verification /registration on the specified date and time.
- c) It will be the sole responsibility of the candidate to check up his/ her selection from the provisional selection list. It is also the responsibility of the candidates to remain in touch with the university website from time to time for information related to admission process.
- d) It is the sole responsibility of the candidates to furnish full and correct information on the application form. Any selection/ admission made on the basis of wrong or concealed information supplied by the candidates would be cancelled even after the admission process at the cost and risk of the candidates.

6.2 Right of Petition

No representation/ petition against the selection will be entertained after the lapse of one month from the date of last counselling.

Chapter-VII
(FEE STRUCTURE)

7.1 The candidates selected for admission shall have to pay the requisite fee as detailed below:-

- | | | |
|---------------------------------|---|--|
| (i) Normal Seat | - | Rs. 28,720.00
Rs. 18,720.00 (for HP-BPL girl candidates)
No fee (for PH category candidates) |
| (ii) Self-financing Seat | - | Rs. 68720.00 |

This fee includes fee for 1st Semester of the degree programme, annual charges and one-time charges for the degree programme.

The fee structure is approved by the Competent Authority of the University and it shall generally remain unchanged during the entire duration of the degree programme. The candidates selected for admission shall have to deposit the requisite fee directly in the Account No. 40289507524, State Bank of India, Nauli Branch IFSC SBIN0050279 through internet banking or any other mode of bank transaction. All the candidates shall have to produce the actual receipt in hard copy from the bank at the time of registration in the concerned College.

7.2 The detailed fee structure is as under:-

i) Normal Seats

Sr. No.	Particulars	Fee (Rs.)	Remarks
1.	Admission fee	5000	At the time of admission
2.	Registration fee	3000	Annual
3.	Tuition fee (exempted in case of girls belonging to HP-BPL families)	10000	Semester-wise
4.	Sports, games & youth welfare activity	1000	Semester-wise
5.	Examination fee	3000	Semester-wise
6.	Infra-structure development/ maintenance fund	1500	Semester-wise
7.	Placement guidance fee	50	Semester-wise
8.	Educational tour	1500	Semester-wise
9.	Identity card fee	100	At the time of admission
10.	Library card fee	100	Annual
11.	Library service charges	500	Semester-wise
12.	College security (Refundable)	500	At the time of admission
13.	Library security (Refundable)	500	At the time of admission
14.	Amalgamated fund	1000	Semester-wise
15.	Medical charges	500	Semester-wise
16.	NCC/ NSS fee	200	Semester-wise
17.	CSA	150	Semester-wise
18.	Green Charges	120	Semester-wise
	Total	28720	

ii) Self-financing Seats

Sr. No.	Particulars	Fee (Rs.)	Remarks
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1.	Admission fee	5000	At the time of admission
2.	Registration fee	3000	Annual
3.	Tuition fee	50000	Semester-wise
4.	Sports, games & youth welfare activity	1000	Semester-wise
5.	Examination fee	3000	Semester-wise
6.	Infra-structure development/ maintenance fund	1500	Semester-wise
7.	Placement guidance fee	50	Semester-wise
8.	Educational tour	1500	Semester-wise
9.	Identity card fee	100	At the time of admission
10.	Library card fee	100	Annual
11.	Library service charges	500	Semester-wise
12.	College security (Refundable)	500	At the time of admission
13.	Library security (Refundable)	500	At the time of admission
14.	Amalgamated fund	1000	Semester-wise
15.	Medical charges	500	Semester-wise
16.	NCC/ NSS fee	200	Semester-wise
17.	CSA	150	Semester-wise
18.	Green Charges	120	Semester-wise
	Total	68720	

NOTE:

- a) The NCC security of Rs. 200/- (refundable) will be charged from the students after enrolment as NCC cadet.
- b) The bus fare will be charged from the students willing to avail the bus facility daily on the prevalent rates after the permission is accorded by the concerned Dean. This shall be applicable in case of students admitted/ enrolled in the main campus of the University at Nauni i.e. students of College of Horticulture, Nauni or College of Forestry, Nauni.
- c) In case, two siblings of same parents are admitted to same or different Academic Programmes of the University, fee concession @ 50% of tuition fee will be given to younger one.

7.3 Other usual charges for specific purposes

Sr. No.	Particulars	Fee (Rs.)	Remarks
1.	Continuation fee	1000	Semester-wise from 2 nd semester
2.	Change of course fee	300	At the time of change of course
3.	Late admission/ registration	1000	Per day
4.	Re-registration fee	2000	At the time of re-admission
5.	Odd Semester course fee	500	Per course

7.3 (i) Allotment of Hostel and usual charges in the Main Campus

There is limited hostel facility available in the main Campus at Nauni. The allotment of hostel is made strictly on the basis of merit. For availing the hostel facility, the enrolled students have to fill a specific application form available in the office of the Students' Welfare Officer. After the allotment of room in the hostel, the student shall have to deposit a sum of Rs. 5680/- (Rs. 5180/- in case of SC/ST category students) in the SWO's designated bank account through internet banking or any other mode of online banking facility. The hard copy of the receipt is required to be deposited in the Office of the Students' Welfare Officer. The detail of the hostel charges is as under:-

1.	Mess security (adjusted in the last mess bill)	2000	At the time of admission
2.	Hostel security (Refundable)	300	At the time of admission
3.	Maintenance charges	1000	Semester-wise
4.	Utensil & crockery charges	200	Semester-wise
5.	Common room charges	200	Semester-wise
6.	Garbage collection charges	180	Semester-wise
7.	Room Rent (exempted in case of SC/ST students)	500	Semester-wise
8.	Electricity charges	1200	Semester-wise
9.	Water charges	100	Semester-wise
	Total	5680	

Note:

- a) There will be no charges for PH category students
- b) Mess services charge of Rs. 1500/- only will be charged separately by the SWO after the allotment of room in the hostel.

8.3 (ii) Allotment of Hostel and usual charges in the College of Horticulture & Forestry, Hamirpur (Neri)

There is limited hostel facility available in the College of Horticulture & Forestry, Hamirpur (Neri). The allotment of hostel is made strictly on the basis of merit. For availing the hostel facility, the enrolled students have to fill a specific application form available in the office of the Dean. After the allotment of room in the hostel, the student shall have to deposit a sum of Rs. 5680/- (Rs. 5180/- in case of SC/ST category students) in the Dean's designated bank account through internet banking or any other mode of online banking facility. The hard copy of the receipt is required to be deposited in the Office of the Dean. The detail of the hostel charges is as under:-

1.	Mess security (adjusted in the last mess bill)	2000	At the time of admission
2.	Hostel security (Refundable)	300	At the time of admission
3.	Maintenance charges	1000	Semester-wise
4.	Utensil & crockery charges	200	Semester-wise
5.	Common room charges	200	Semester-wise
6.	Garbage collection charges	180	Semester-wise
7.	Room Rent (exempted in case of SC/ST students)	500	Semester-wise
8.	Electricity charges	1200	Semester-wise
9.	Water charges	100	Semester-wise
	Total	5680	

Note:

- a) There will be no charges for PH category students
- b) Mess services charge of Rs. 1500/- only will be charged separately by the SWO after the allotment of room in the hostel.

7.3(iii) Allotment of Hostel and usual charges in the College of Horticulture & Forestry, Mandi (Thunag)

As this is a new campus, as such, there is no hostel facility available in this College and the students have to stay in the private PG's which is available in the surroundings of the College Campus.

7.4 Refund/adjustment of fee

Sr. No.	Situation	Refund/ Adjustment
1.	On request received by the concerned Dean and copy to the Registrar on or before 3 rd (last) counselling	Entire fee less by Rs.1000/- as processing charges
2.	On request received by the concerned Dean and copy to the Registrar after final or subsequent counselling	Only security deposits will be refunded.

Chapter-VIII

UNIVERSITY GRANTS COMMISSION

UGC REGULATIONS

ON CURBING THE MENACE OF RAGGING IN HIGHER EDUCATIONAL INSTITUTIONS, 2009

(under Section 26(1)(g) of the University Grants Commission Act, 1956)

New Delhi – 110 002, the 17th June, 2009

F.1-16/2007(CPP-II)

PREAMBLE

In view of the directions of the Hon'ble Supreme Court in the matter of "University of Kerala v/s Council, Principals, Colleges and others" in SLP no. 24295 of 2006 dated 16.05.2007 and that dated 08.05.2009 in Civil Appeal number 887 of 2009, and in consideration of the determination of the Central Government and the University Grants Commission to prohibit, prevent and eliminate the scourge of ragging including any conduct by any student or students whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness a fresher or any other student, or indulging in rowdy or in-disciplined activities by any student or students which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear of apprehension thereof in any fresher or any other student or asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment to embarrassment so as to adversely affect the physique or psyche of such fresher or any student, with or without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any other student, in all higher education institutions in the country, and thereby, to provide for the healthy development, physically and psychologically, of all students of the university, the University Grants Commission, in consultation with the Councils, brings forth this regulation.

8.1 Title, commencement and applicability:

- 8.1.1 These regulations shall be called the "UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009".
- 8.1.2 They shall come into force from the date of their publication in the Official Gazette.
- 8.1.3 They shall apply to all the Institutions coming within the definition of an University under sub-section (f) of section (2) of the University Grants Commission Act, 1956, and to all other higher educational institutions, or elements of such universities or institutions, including its departments, constituent units and all the premises, whether being academic, residential, playgrounds, canteen, or other such premises of such universities, deemed universities and higher educational institutions, whether located within the campus or outside, and to all means of transportation of students for the pursuit of studies in such universities, deemed universities and higher educational institutions.

8.2 Objectives:

To prohibit any conduct by any student or students whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness a fresher or any other student, or indulging in rowdy or in-disciplined activities by any student or students which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear of apprehension thereof in any fresher or any other student or asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment or embarrassment so as to adversely affect the physique or psyche of such fresher or any student, with or without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any other student; and thereby, to eliminate ragging in all its forms from Universities, deemed universities and other higher education institutions in the country by prohibiting it under these Regulations, preventing its occurrence and punishing those who indulge in ragging as provided for in these regulations and the appropriate law in force.

8.3 What constitutes Ragging:

Ragging constitutes one or more of any of the following acts:

- a) Any conduct by any student or students whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness any fresher or any other student.
- b) Indulging in rowdy or in-disciplined activities by any student or students which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in any fresher or any other student.
- c) Asking any student to do any act or perform something which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame or torment or embarrassment so as to adversely affect the physique or psyche of a fresher or any other student.
- d) Any act by a senior student that prevents, disrupts or disturbs the regular academic activity of any other student or a fresher.
- e) Exploiting the services of a fresher or any other student for completing the academic tasks assigned to an individual or a group of students.
- f) Any act of financial extortion or forceful expenditure burden put on a fresher or any other student by students.
- g) Any act of physical abuse including all variants of it; sexual abuse, homosexual assaults, stripping, forcing obscene and lewd acts, gestures, causing bodily harm or any other danger to health of a person.
- h) Any act or abuse by spoken words, e-mails, post, public insults which would also include deriving perverted pleasure, vicarious or sadistic thrill from actively or passively participating in the discomfiture to fresher or any other student.
- i) Any act that affects the mental health and self-confidence of a fresher or any other student with or without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any other student.

8.4 Measures for prohibition of ragging at the institution level:

- a) No Institution or any part of it thereof, including its elements, including, but not limited to the departments, constituent units, colleges, centres of studies and all its premises, whether academic, residential, playgrounds, or canteen, whether located within the campus or outside, and in all means of transportation of students, whether public or private, accessed by students for the pursuit of studies in such institutions,

shall permit or condone any reported incident of ragging in any form; and all institutions shall take all necessary and required measures, including but not limited to the provisions of these regulations, to achieve the objective of eliminating ragging, within the institution or outside.

- b) All institutions shall take action in accordance with these regulations against those found guilty of ragging and/ or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.

8.5 Measures for prevention of ragging at the Institution level:

8.5.1 An institution shall take the following steps in regard to admission or registration of students; namely,

- a) Every public declaration of intent by any institution, in any electronic, audio-visual on print or any other media, for admission of students to any course of study shall expressly provide that ragging is totally prohibited in the Institution, and anyone found guilty of ragging and/or abetting ragging, whether actively or passively, or being a part of a conspiracy to promote ragging, is liable to be punished in accordance with these Regulations as well as under the provisions of any penal law for the time being in force.
- b) The brochure of admission/ instruction booklet or the prospectus, whether in print or electronic format, shall prominently print these regulations in full.

Provided that the institution shall also draw attention to any law concerning ragging and its consequences, as may be applicable to the institution publishing such brochure of admission/instruction booklet or the prospectus.

Provided further that the telephone numbers of the Anti-Ragging helpline and all the important functionaries in the institution, including but not limited to the Head of the Institution, faculty members, members of the Anti-Ragging Committees and Anti-ragging squads, District and Sub-divisional authorities, wardens of hostels, and other functionaries or authorities where relevant, shall be published in the brochure of admission/ instruction booklet or the prospectus.

- a) Where an institution is affiliated to a University and publishes a brochure of admission/instruction booklet or a prospectus, the affiliating University shall ensure that the affiliated institution shall comply with the provisions of clause (a) and clause (b) of regulation 5.1 of these regulations.
- b) The application form for admission, enrolment or registration shall contain an affidavit, mandatorily in English and in Hindi and/or in one of the regional languages known to the applicant, as provided in the English language in Annexure-I to these regulations, to be filled up and signed by the applicant to the effect that he/ she has read and understood the provisions of these regulations as well as the provisions of any other law for the time being in force, and is aware of the prohibition of ragging and the punishments prescribed, both under penal laws as well as under these regulations and also affirm to the effect that he/she has not been expelled and/or debarred by any institution and further aver that he/she would not indulge, actively or passively, in the act or abet the act of ragging and if found guilty of ragging and/or abetting ragging, is liable to be proceeded against under these regulations or under any penal law or any other law for the time being in force and such action would include but is not limited to debarment or expulsion of such student.
- c) The application form for admission, enrolment or registration shall contain an affidavit, mandatorily in English and in Hindi and/or in one of the regional languages known to the parents/guardians of the applicant, as provided in the English language

in Annexure I to these regulations, to be filled up and signed by the parents/guardians of the applicant to the effect that he/she has read and understood the provisions of these regulations as well as the provisions of any other law for the time being in force, and is aware of the prohibition of ragging and the punishments prescribed, both under penal laws as well as under these regulations and also affirm to the effect that his/her ward has not been expelled and/or debarred by any institution and further aver that his/her ward would not indulge, actively or passively, in the act or abet the act of ragging and if found guilty of ragging and/or abetting ragging, his/her ward is liable to be proceeded against under these regulations or under any penal law or any other law for the time being in force and such action would include but is not limited to debarment or expulsion of his/ her ward.

- d) The application for admission shall be accompanied by a document in the form of, or annexed to, the school leaving certificate/ transfer certificate/ migration certificate/ character certificate reporting on the inter-personal/ social behavioural pattern of the applicant, to be issued by the School or institution last attended by the applicant, so that the institution can thereafter keep watch on the applicant, if admitted, whose behaviour has been commented in such document.
- e) A student seeking admission to a hostel forming part of the institution, or seeking to reside in any temporary premises not forming part of the institution, including to reside in any temporary premises not forming part of the institution, including a private commercially managed lodge or hostel, shall have to submit additional affidavits countersigned by his/her parents/guardians in the form prescribed in Annexure-II and Annexure-III to these regulations respectively along with his/her application.
- f) Before the commencement of the academic session in any institution, the Head of the Institution shall convene and address a meeting of various functionaries/agencies, such as hostel wardens, representatives of students, parents/guardians, faculty, district administration including the police, to discuss the measures to be taken to prevent ragging in the institution and steps to be taken to identify those indulging in or abetting ragging and punish them.
- g) The institution shall, to make the community at large and the students in particular aware of the dehumanizing effect of ragging, prominently display posters depicting the provisions of these Regulations and also any other law for the time being in force, and the punishments thereof, shall be prominently displayed on notice boards of all departments, hostels and other buildings as well as at places, where students normally gather and at places, known to be vulnerable to occurrences of ragging incidents.
- h) The institution shall identify, properly illuminate and keep a close watch on all locations known to be vulnerable to occurrences of ragging incidents.
- i) The institution shall tighten security in its premises, especially at vulnerable places and intense policing by anti-ragging squad, referred to in these regulations and volunteers, if any, shall be resorted to at such points at odd hours during the first few months of the academic session.
- j) The institution shall utilize the vacation period before the start of the new academic year to launch a publicity campaign against ragging through posters, leaflets and such other means, as may be desirable or required, to promote the objectives of these Regulations.

8.5.2 An institution shall, on admission or enrolment or registration of students, take the following steps, namely;

- a) Every fresh student admitted to the institution shall be given a printed leaflet detailing to whom he/she has to turn to for help and guidance for various purposes including addresses and telephone numbers, so as to enable the student to contact the concerned person at any time, if and when required, of the Anti-Ragging Helpline referred to in

these regulations, wardens, Head of the Institution, all members of the anti-ragging squads and committees, relevant district and police authorities.

- b) The institution, through the leaflet specified in clause (a) of Regulation 5.2 of these regulations shall explain to the freshers, the arrangements made for their induction and orientation which promote efficient and effective means of integrating them fully as students with those already admitted to the institution in earlier years.
- c) The leaflet specified in clause (a) of regulation 5.2 of these regulations shall inform the freshers about their rights as bonafide students of the institution and clearly instructing them that they should desist from doing anything, with or against their will, even if ordered to by the senior students, and that any attempt of ragging shall be promptly reported to the anti-ragging squad or to the warden or to the head of the institution, as the case may be.
- d) The institution shall, on the arrival of senior students after the first week or after the second week, as the case may be, schedule orientation programmes as follows, namely; (i) joint sensitization programme and counselling of both freshers and senior students; (ii) joint orientation programme of freshers and seniors to be addressed by the head of the institution and the anti-ragging committee; (iii) organization on a large scale of cultural, sports and other activities to provide a platform for the freshers and seniors to interact in the presence of faculty members; (iv) in the hostel, the warden should address all students; and may request two junior colleagues from the college faculty to assist the warden by becoming resident tutors for a temporary duration (v) as far respective hostels to instil a feeling of confidence among the freshers.
- e) Freshers or any other student(s), whether being victims, or witnesses, in any incident of ragging, shall be encouraged to report such occurrence, and the identity of such informants shall be protected and shall not be subject to any adverse consequence only for the reason for having reported such incidents.
- f) Each batch of freshers, on arrival at the institution, shall be divided into small groups and each such group shall be assigned to a member of the faculty, who shall interact individually with each member of the group every day for ascertaining the problems or difficulties, if any, faced by the fresher in the institution and shall extend necessary help to the fresher in overcoming the same.
- g) It shall be the responsibility of the member of the faculty assigned to the group of freshers, to coordinate with the wardens of the hostels and to make surprise visits to the rooms in such hostels, where a member or members of the group are lodged; and such member of faculty shall maintain a diary of his/her interaction with the freshers under his/her charge.
- h) Freshers shall be lodged, as far as may be, in a separate hostel block, and where such facilities are not available, the interaction shall ensure that access of seniors to accommodation allotted to freshers is strictly monitored by wardens, security guards and other staff of the institution.
- i) A round the clock vigil against ragging in the hostel premises, in order to prevent ragging in the hostels after the classes are over, shall be ensured by the institution.
- j) It shall be the responsibility of the parents/guardians of freshers to promptly bring any instance of ragging to the notice of the Head of the Institution.
- k) Every student studying in the institution and his/her parents/guardians shall provide the specific affidavits required under clauses (d), (e) and (f) of Regulation 5.1 of these regulations at the time of admission or registration, as the case may be, during each academic year.
- l) Every student at the time of his/her registration shall inform the institution about his/her place of residence while pursuing the course of study, and in case the student has not decided his/her place of residence or intends to change the same, the details of his place of residence shall be provided immediately on deciding the same; and specifically in regard to a private commercially managed lodge or hostel where he/she has taken up residence.

- m) The head of the institution shall, on the basis of the information provided by the student, apportion sectors to be assigned to members of the faculty, so that such member of faculty can maintain vigil and report any incident of ragging outside the campus or en route while commuting to the institution using any means of transportation of students, whether public or private.

8.5.3 Every institution shall constitute the following bodies; namely,

- a) Every Institution shall constitute to be known as the anti-ragging committee to be nominated and headed by the head of the institution, and consisting of representatives of civil and police administration, local media, non-government organizations involved in youth activities, representatives of faculty members, representatives of students belonging to the freshers' category as well as senior students, non-teaching staff; and shall have a diverse mix of membership in terms of levels as well as gender.
- b) It shall be the duty of the anti-ragging committee to ensure compliance with the provisions of these regulations as well as the provisions of any law for the time being in force concerning ragging; and also to monitor and oversee the performance of the anti-ragging squad in prevention of ragging in the institution.
- c) Every institution shall also constitute a smaller body to be known as the anti-ragging squad to be nominated by the head of the institution with such representation as may be considered necessary for maintaining vigil, oversight and patrolling functions and shall remain mobile, alert and active at all times.

Provided that the anti-ragging squad shall have representation of various members of the campus community and shall have no outside representation.

- d) It shall be the duty of the anti-ragging squad to be called upon to make surprise raids on hostels, and other places vulnerable to incidents of, and having the potential of razing and shall be empowered to inspect such places.
- e) It shall also be the duty of the anti-ragging squad to conduct an on-the-spot enquiry into any incident of ragging referred to it by the Head of the institution or any member of the faculty or any member of the staff or any student or any parent or guardian or any employee of a service provider or by any other person, as the case may be; and the enquiry report along with recommendations shall be submitted to the anti-ragging committee for action under clause (a) of regulation 8.1

Provided that the anti-ragging squad shall conduct such enquiry observing a fair and transparent procedure and the principles of natural justice and after giving adequate opportunity to the student or students accused of ragging and other witnesses to place before it the facts, documents and views concerning the incident of ragging, and considering such other relevant information as may be required.

8.5.4 Every institution shall take the following other measures, namely;

- a) The warden shall be accessible at all hours and be available on telephone and other modes of communication, and for the purpose the warden shall be provided with a mobile phone by the institution, the number of which shall be publicised among all students residing in the hostel.
- b) The institution shall give necessary instructions to the employees of the canteens and messing, whether that of the institution or that of a service provider providing this service, or their employees, as the case may be, to keep a strict vigil in the area of their work and to report the incidents of ragging to the head of the institution or

members of the anti-ragging squad or members of the anti-ragging committee or the wardens, as may be required.

- c) The institution shall cause to have an entry, apart from those relating to general conduct and behaviour, made in the migration/transfer certificate issued to the student while leaving the institution, as to whether the student has been punished for committing or abetting an act of ragging, as also whether the student has displayed persistent violent or aggressive behaviour or any inclination to harm others, during his/her course of study in the institution.
- d) Notwithstanding anything contained in these regulations with regard to obligations and responsibilities pertaining to the authorities or members of bodies prescribed above, it shall be the general collective responsibility of all levels and sections of authorities or functionaries including members of the faculty and employees of service providers providing service within the institution, to prevent or to act promptly against the occurrence of ragging or any incident of ragging which comes to their notice.

8.6 Action to be taken by the Head of the institution:

On receipt of the recommendation of the anti-ragging squad or on receipt of any information concerning any reported incident of ragging, the Head of the Institution shall immediately determine if a case under the penal laws is made out and if so, either on his own or through a member of the anti-ragging committee authorized by him in this behalf, proceed to file a first information report (FIR), within twenty four hours of receipt of such information or recommendation, with the police and local authorities, under the appropriate penal provisions relating to one or more of the following, namely;

- a) Abetment to ragging
- b) Criminal conspiracy to rag
- c) Unlawful assembly and rioting while ragging
- d) Public nuisance created during ragging
- e) Violation of decency and morals through ragging
- f) Injury to body, causing hurt or grievous hurt
- g) Wrongful restraint
- h) Wrongful confinement
- i) Use of criminal force
- j) Assault as well as sexual offences or unnatural offences
- k) Extortion
- l) Criminal trespass
- m) Offences against property
- n) Criminal intimidation
- o) Attempts to commit any or all of the above mentioned offences against the victim(s)
- p) Threat to commit any or all of the above mentioned offences against the victim(s)
- q) Physical or psychological humiliation
- r) All other offences following from the definition of “Ragging”

Provided that the head of the institution shall forthwith report the occurrence of the incident of ragging to the district level anti-ragging committee and the nodal officer of the affiliating university, if the institution is an affiliated institution.

Provided further that the institution shall also continue with its own enquiry initiated under clause 8 of these regulations and other measures without waiting for action on the part of the police/local authorities and such remedial action shall be

initiated and completed immediately and in no case later than a period of seven days of the reported occurrence of the incident of ragging.

8.7 Duties and Responsibilities of the Commission and the Councils:

8.7.1 The Commission shall, with regard to providing/facilitating communication of information regarding incidents of ragging in any institution, take the following steps, namely,

- a) The Commission shall establish, fund and operate, a toll free anti-ragging helpline, operational round the clock, which could be accessed by students in distress owing to ragging related incidents.
- b) Any distress message received at the anti-ragging helpline shall be simultaneously relayed to the head of the institution, the warden of the hostels, the concerned District Authorities and if so required, the District Magistrate and the Superintendent of Police, and shall also be web enabled so as to be in the public domain simultaneously for the media and citizens to access it.
- c) The Head of the Institution shall be obliged to act immediately in response to the information received from the anti-ragging helpline as at sub-clause (b) of this clause.
- d) The telephone numbers of the Anti-Ragging Helpline and all the important functionaries in every institution, Heads of institutions, faculty members, members of the anti-ragging committees and anti-ragging squads, district and sub-divisional authorities where relevant, shall be widely disseminated for access or to seek help in emergencies.
- e) The Commission shall maintain an appropriate data base to be created out of affidavits, affirmed by each student and his/ her parents/ guardians and stored electronically by the institution, and such database shall also function as a record of ragging complaints received, and the status of the action taken thereon.
- f) The Commission shall make available the data base to a non-governmental agency to be nominated by the Central Government, to build confidence in the public and also to provide information of non-compliance with these Regulations to the Councils and to such bodies as may be authorized by the Commission or by the Central Government.

8.7.2 The Commission shall take the following regulatory steps, namely;

- a) The Commission shall make it mandatory for the institutions to incorporate in their prospectus, the directions of the Central Government or the State Level Monitoring Committee with regard to prohibition and consequences of ragging, and that non-compliance with these regulations and directions so provided, shall be considered as lowering of academic standards by the institution, therefore making it liable for appropriate action.
- b) The Commission shall verify that the institutions strictly comply with the requirement of getting the affidavits from the students and their parents/guardians as envisaged under these Regulations.
- c) The Commission shall include a specific condition in the Utilization Certificate, in respect of any financial assistance or grants-in-aid to any institution under any of the general or special schemes of the commission that the institution has complied with the anti-ragging measures.
- d) Any incident of ragging in an institution shall adversely affect its accreditation ranking or grading by NAAC or by any other authorized accreditation agencies while assessing the institution for accreditation, ranking or grading purposes.

- e) The Commission may accord priority in financial grants-in-aid to those institutions, otherwise eligible to receive grants under section 12B of the Act, which report a blemish less record in terms of there being no reported incident of ragging.
- f) The Commission shall constitute an Inter-Council Committee, consisting of representatives of the various Councils, the Non-Governmental Agency responsible for monitoring the database maintained by the Commission under clause (f) of Regulation 7.1 and such other bodies in higher education, to coordinate and monitor the anti-ragging measures in institutions across the Country and to make recommendations from time to time; and shall meet at least once in six months each year.
- g) The Commission shall institute an Anti-Ragging Cell within the Commission as an institutional mechanism to provide secretarial support for collection of information and monitoring, and to coordinate with the State Level Monitoring Cell and University level Committees for effective implementation of anti-ragging measures, and the Cell shall also coordinate with the Non-Governmental agency responsible for monitoring the database maintained by the Commission appointed under clause (f) of Regulation 7.1.

8.8 Administrative action in the event of ragging:

8.8.1 The Institution shall punish a student found guilty of ragging after following the procedure and in the manner prescribed hereinunder:

- a) The Anti-ragging Committee of the University shall take an appropriate decision, in regard to punishment or otherwise, depending on the facts of each incident of ragging and nature and gravity of the incident of ragging established in the recommendations of the Anti-ragging Squad.
- b) The Anti-ragging Committee may, depending on the nature and gravity of the guilt established by the Anti-Ragging Squad, award, to those found guilty, one or more of the following punishments, namely;
 - i) Suspension from attending the classes and academic privileges
 - ii) Withholding/withdrawing scholarship/fellowship and other benefits
 - iii) Debarring from appearing in any test/examination or other evaluation process
 - iv) Withholding results
 - v) Debarring from representing the University in any regional, national or international meet, tournament, youth festival, etc
 - vi) Suspension/expulsion from the hostel
 - vii) Cancellation of admission
 - viii) Rustication from the University for period ranging from one to four Semesters
 - ix) Expulsion from the University and consequent debarring from admission to any other institution/University for a specified period.

Provided that where the persons committing or abetting the act of ragging are not identified, the University shall resort to collective punishment.

- c) An appeal against the order of punishment by the Anti-ragging Committee shall lie,
 - i. In case of an order of an institution, affiliated to or constituent part, of a University, to the Vice Chancellor of the University.
 - ii. In case of an order of a University, to its Chancellor.

- iii. In case of an institution of national importance created by an Act of Parliament, to the Chairman or Chancellor of the institution, as the case may be.

8.8.2 Where in the opinion of the appointing authority, a lapse is attributable to any member of the faculty or staff of the institution, in the matter of reporting or taking prompt action to prevent an incident of ragging or who displays an apathetic or insensitive attitude towards complaints of ragging, or who fails to take timely steps, whether required under these Regulations or otherwise, to prevent an incident or incidents of ragging, then such authority shall initiate departmental disciplinary action, in accordance with the prescribed procedure of the institution, against such member of the faculty or staff.

Provided that where such lapse is attributable to the Head of the institution, the authority designated to appoint such Head shall take such departmental disciplinary action; and such action shall be without prejudice to any action that may be taken under the penal laws for abetment of ragging for failure to take timely steps in the prevention of ragging or punishing any student found guilty of ragging.

8.8.3 The Commission shall, in respect of any institution that fails to take adequate steps to prevent ragging or fails to act in accordance with these Regulations or fails to punish perpetrators or incidents of ragging suitably, take one of more of the following measures, namely;

- i. Withdrawal of declaration of fitness to receive grants under section 12B of the Act.
- ii. Withholding any grant allocated.
- iii. Declaring the institution ineligible for consideration for any assistance under any of the general or special assistance programmes of the Commission.
- iv. Informing the general public, including potential candidates for admission, through a notice displayed prominently in the newspapers or other suitable media and posted on the website of the Commission, declaring that the institution does not possess the minimum academic standards.
- v. Taking such other action within its powers as it may deem fit and impose such other penalties as may be provided in the Act for such duration of time as the institution complies with the provisions of these Regulations.

Provided that the action taken under this clause by the Commission against any institution shall be shared by all Councils.

Contacts in case of “Ragging”

Fax No. 01792-252 603

Website: www.yspuniversity.ac.in

Sr No	Designation	E-mail Address	Telephone Numbers (10.00 AM to 5.00 PM)
1.	Vice-Chancellor	vcuhf@yspuniversity.ac.in	01792-252363
2.	Dean, College of Horticulture, Nauni- Solan	deancoh@yspuniversity.ac.in	01792-252344
3.	Dean, College of Forestry, Nauni-Solan	deancof@yspuniversity.ac.in	01792-252354
4.	Dean, College of Horticulture & Forestry, (Neri) Hamirpur	deancohf@yspuniversity.ac.in	01972-262901
5.	Dean, College of Horticulture and Forestry, (Thunag) Mandi	deancohthunag@yspuniversity.ac.in	01907-257663
6.	Students’ Welfare Officer	swo@yspuniversity.ac.in	01792-252312
7.	Registrar	registrar@yspuniversity.ac.in	01792-252219

Outline of syllabus for Entrance Examination

Section I

PHYSICS

Physical World and Measurement: Physics - Scope and excitement; nature of physical laws; Physics, technology and society. Need for measurement: Units of measurement; systems of units; SI units, fundamentals and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement; significant figures. Dimensions of physical quantities, dimensional analysis and its applications.

Kinematics: Frame of reference. Motion in a straight line: Position-time graph, speed and velocity. Uniform and non-uniform motion, average speed and instantaneous velocity. Uniformly accelerated motion, velocity-time, position-time graphs, relations for uniformly accelerated motion (graphical treatment). Elementary concepts of differentiation and integration for describing motion.

Scalar and vector quantities: Position and displacement vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number, addition and subtraction of vectors, relative velocity.

Unit vector: Resolution of a vector in a plane-rectangular components. Motion in a plane. Cases of uniform velocity and uniform acceleration, projectile motion. Uniform circular motion.

Laws of Motion: Intuitive concept of force, inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse. Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces. Static and kinetic friction, laws of friction, rolling friction. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on level circular road, vehicle on banked road)

Work, Energy and Power: Scalar product of vectors. Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power. Notion of potential energy, potential energy of a spring, conservative forces: conservation of mechanical energy (kinetic & potential energies); non-conservative forces: elastic & inelastic collisions in one & two dimensions.

Motion of System of Particles & Rigid Body: Centre of mass of a two-particle system, momentum conservation & centre of mass motion. Centre of mass of a rigid body, centre of mass of uniform rod. vector product of vectors; moment of a force, torque, angular momentum, conservation of angular momentum with some examples. equilibrium of rigid bodies, rigid body rotation & equations of rotational motion, comparison of linear & rotational motions, moment of inertia, radius of gyration. values of moments of inertia for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications.

Gravitation: Kepler's Laws of planetary motion. The universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential. Escape velocity. Orbital velocity of a satellite. Geo-stationary satellites

Properties of Bulk Matter: Elastic behaviour, stress-strain relationship, Hooke's law, Young's law, Young's modulus, bulk modulus, shear, modulus of rigidity. Pressure due to a fluid column, Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, Reynold's number, streamline and turbulent flow, Bernoulli's theorem and its applications. Surface energy and surface tension, angle of contact, application of surface tension ideas to drops, bubbles and capillary rise. Heat, temperature, thermal expansion; specific heat - calorimetry; change of

state - latent heat. Heat transfer -conduction, convection and radiation, thermal conductivity, Newton's law of cooling.

Thermodynamics: Thermal equilibrium and definition of temperature (Zeroth law of thermodynamics). Heat, work and internal energy. First law of thermodynamics. Second law of thermodynamics: reversible and irreversible processes. Heat engines and refrigerators.

Behaviour of Perfect Gas and Kinetic Theory: Equation of state of a perfect gas, work done on compressing of a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic energy and temperature; rms speed of gas molecules; degrees of freedom, law of equilibrium of energy (statement only) and application to specific heats of gases, concept of mean free path, Avogadro's number.

Oscillations and Waves: Periodic motion - period, frequency, displacement as a function of time, periodic functions. Simple harmonic motion (SHM) and its equation; phase; oscillations of a spring-restoring force and force constant; energy in SHM- kinetic and potential energies; simple pendulum - derivation of expression for its time period; free, forced and damped oscillations (qualitative idea only). Resonance.

Equilibrium: Wave motion, longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, beats, Doppler effect.

Electrostatics: Electric charges; conservation of charge, Coloumb's law - force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines; electric dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinitely plane sheet and uniformly charged thin spherical shell (field inside and outside). Electric potential, potential difference; electric potential due to a point charge, a dipole and system of two point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarisation, capacitor and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates; energy stored in a capacitor. Van de Graaff generator

Current Electricity: Electric current, flow of electric charges in a metallic conductor, drift velocity and mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics, (linear and non-linear) electrical energy and power, electrical resistivity and conductivity, Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance. Internal resistance of a cell, Potential difference and emf of a cell, combination of cells in series and in parallel. Kirchhoff's laws and simple applications, Wheatstone bridge, Metre bridge, Potentiometer – principle and its applications to measure potential difference and for comparing emf of two cells; measurement of internal resistance of a cell.

Magnetic Effects of Currents and Magnetism: Concept of magnetic field, Oersted's experiment. Biot-Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids. Force on a moving charge in uniform magnetic and electric fields, Cyclotron. Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel current carrying conductors- definition of ampere. Torque experienced by a current loop in uniform magnetic field; moving coil galvanometer – its current sensitivity and conversion to ammeter and voltmeter. Current loop as a magnetic dipole moment and its magnetic dipole moment; magnetic dipole moment due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements; para, dia and ferro-magnetic substances with examples, electromagnets and factors affecting their strengths, permanent magnets.

Electromagnetic Induction and Alternating Currents: Electromagnetic induction, Faraday's laws, Induced emf and current, Lenz's law, Eddy currents, self and mutual inductance. Need for displacement current. Alternating currents, peak and rms value of alternating current/voltage, reactance and impedance; LC oscillations, (qualitative treatment only), LCR series circuit, resonance; power in AC circuits, watt-less current. AC generator and transformer.

Electromagnetic Waves: Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves. Electromagnetic spectrum (radiowaves, microwaves, infrared, visible, ultraviolet, X-rays, *gamma* rays) including elementary facts about their uses.

Optics: Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens-maker's formula, Magnification, power of a lens, combination of thin lenses in contact. Refraction and dispersion of light through a prism. Scattering of light – blue colour of the sky and reddish appearance of the sun at sun rise and sunset.

Optical Instruments – Human eye, image formation and accommodation, correction of eye defects (myopia, hypermetropia, presbyopia and astigmatism) using lenses. Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Wave Optics: wave front and Huygen's principle; reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's Principle. Interference – Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light. Diffraction due to a single slit, width of central maximum. Resolving power of microscopes and astronomical telescopes. Polarisation, plane polarised light, Brewster's law, uses of plane polarised light and polaroids

Dual Nature of Matter and Radiation: Dual nature of radiation. Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation - particle nature of light. Matter waves – wave nature of particles, de-Broglie relation, Davisson-Germer experiment.

Atomic & Nuclei: Alpha-particle - scattering experiment, Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum. Composition and size of nucleus, atomic masses, isotopes, isobars; isotones. Radioactivity - *alpha*, *beta* and *gamma* particles/rays and their properties; radioactive decay law. Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number, nuclear fission and fusion.

Electronic Devices: Semiconductors; semiconductor diode I-V characteristics in forward and reverse bias, diode as a rectifier; I-V characteristics of LED, photodiode, solar cell and Zener diode; Zener diode as a voltage regulator, Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator, Logic gates (OR, AND, NOT, NAND and NOR); transistor as a switch.

Communication Systems: Elements of communication systems (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium. Propagation of electromagnetic waves in the atmosphere, sky and space wave propagation. Need for modulation. Production and detection of an amplitude-modulated wave.

Section II

CHEMISTRY

Some Basic Concepts of Chemistry: General introduction: Importance and scope of Chemistry, historical approach to particulate nature of matter, laws of chemical combination. Dalton's atomic theory: Concept of elements, atoms and molecules. Atomic and molecular masses. Mole concept and molar mass: percentage composition, empirical and molecular formula; chemical reactions, stoichiometry and calculations based on stoichiometry.

Structure of Atom: Discovery of electron, proton and neutron; atomic number, isotopes and isobars. Thomson's model and its limitations, Rutherford's model and its limitations. Bohr's model and its limitations, concepts of shells and subshells, dual nature of matter and light, de-

broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of *s*, *p* and *d* orbitals, rules for filling electrons in orbitals – Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.

Classification of Elements and Periodicity in Properties: Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements - atomic radii, inert gas radii. Ionization enthalpy, electron gain enthalpy, electronegativity, valence.

Chemical Bonding and Molecular Structure: Valence electrons, ionic bond, covalent bond: bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization involving *s*, *p* and *d* orbitals and shapes of some simple molecules, molecular orbital; theory of homo nuclear diatomic molecules (qualitative idea only), hydrogen bond.

States of Matter: gases and liquids: Three states of matter. Intermolecular interactions, type of bonding, melting and boiling points. Role of gas laws in elucidating the concept of the molecule, Boyle's law, Charles law, Gay Lussac's law, Avogadro's number. Ideal behaviour, empirical derivation of gas equation, Avogadro's number, Ideal gas equation. Derivation from ideal behaviour, liquefaction of gases, critical temperature. Liquid State – vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivations)

Thermodynamics: Concepts of system, types of systems, surroundings. Work, heat, energy, extensive and intensive properties, state functions. First law of Thermodynamics – internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU and ΔH , Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization and dilution. Introduction of entropy as a state function, free energy change for spontaneous and non-spontaneous process, equilibrium.

Equilibrium: Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium – Le Chatelier's principle; ionic equilibrium – ionization of acids and bases, strong and weak electrolytes, degree of ionization, concept of pH. Hydrolysis of salts (elementary idea). Buffer solutions solubility product, common ion effect (with illustrative examples).

Redox Reactions: Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, applications of redox reactions.

Hydrogen: Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen; hydrides - ionic, covalent and interstitial; physical and chemical properties of water, heavy water; hydrogen peroxide - preparation, reactions and structure; hydrogen as a fuel.

S-block Elements (Alkali and Alkaline Earth Metals)

Group-1 and Group-2 Elements: General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group, diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii). Trends in chemical reactivity with oxygen, water, hydrogen and halogens; uses

Preparation and Properties of some Important Compounds: Sodium carbonate, sodium chloride, sodium hydroxide and sodium hydrogen carbonate, biological importance of sodium and potassium. CaO, CaCO₃ and industrial use of lime and limestone, biological importance of Mg and Ca.

Some P-block Elements: General Introduction to p-block elements

Group 13 elements: General introduction, electronic configuration. Occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous properties of first

element of the group; boron – physical and chemical properties, some important compounds; borax, boric acids, boron hydrides. Aluminium: uses, reactions with acids and alkalis.

Group 14 elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in chemical reactivity, anomalous behaviour of first element, Carbon-catenation, allotropic forms, physical and chemical properties; uses of some important compounds: oxides, important compounds of silicon and a few uses: silicon tetrachloride, silicones, silicates and zeolites.

Organic Chemistry – Some Basic Principles and Techniques: General Introduction, method, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds.

Electronic displacements in a covalent bond: Inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.

CLASSIFICATION OF HYDROCARBONS

Alkanes – Nomenclature, isomerism, conformations (ethane only), physical properties, chemical reactions including free radical mechanism or halogenations, combustion and pyrolysis.

Alkenes – Nomenclature, structure of double (ethene) geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.

Alkynes – Nomenclature, structure of triple bond (ethyne), physical properties. Methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of hydrogen, halogens, hydrogen halides and water.

Aromatic hydrocarbons: Introduction, IUPAC nomenclature; Benzene: Resonance aromaticity, chemical properties; mechanism of electrophilic substitution – nitration, sulphonation, halogenations, Friedel Craft's alkylation and acylation, directive influence of functional group in mono-substituted benzene; carcinogenicity and toxicity.

Environmental Chemistry: Environmental pollution – air, water and soil pollution, chemical reactions in atmosphere, smog, major atmospheric pollutants; acid rain, ozone and its reactions, effects of depletion of ozone layer, greenhouse effect and global warming - pollution due to industrial wastes; green chemistry as an alternative tool for reducing pollution, strategy for control of environmental pollution.

Solid State: Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea), unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell, packing in solids, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties.

Solutions: Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties – relative lowering of vapour pressure, elevation of B.P. depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass.

Electrochemistry: Redox reactions, conductance in electrolytic solutions, specific and molar conductivity variations of conductivity with concentration, Kohlrausch's law, electrolysis and laws of electrolytes (elementary idea), dry cell-electrolytic cells and Galvanic Cells; lead accumulator, EMF of a cell standard electrode potential, Nernst equation and its application to chemical cells, fuel cells; corrosion.

Chemical Kinetics: Rate of a reaction (average and instantaneous), factors affecting rates of reaction, concentration, temperature, catalyst, order and molecularity of a reaction; rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions); concept of collision theory (elementary idea, no mathematical treatment).

Surface Chemistry: Adsorption – physisorption and chemisorption factors affecting adsorption of gases of solids, catalysis; homogeneous and heterogeneous activity and

selectivity: enzyme catalysis; colloidal state: distinction between true solutions, colloids and suspensions; lyophilic, lyophobic multi-molecular and macromolecular colloids, properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation; emulsion – types of emulsions.

General Principles and Processes of Isolation of Elements: Principles and methods of extraction – concentration, oxidation, reduction, electrolytic method and refining; occurrence and principles of extraction of aluminium, copper, zinc and iron.

P-BLOCK ELEMENTS

Group 15 Elements: Elements introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; nitrogen – preparation, properties and uses; compounds of nitrogen: preparation, properties of ammonia and nitric acid, oxides of nitrogen (structure only); Phosphorous - allotropic forms; compounds of phosphorous, preparation and properties of phosphine, halides (PCl_3 , PCl_5) and oxoacids (elementary idea only).

Group 16 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; dioxygen – preparation, properties and uses; simple oxides, ozone. Sulphur - allotropic forms; compounds of sulphur: preparation, properties and uses of sulphur dioxide; sulphuric acid; industrial process of manufacture, properties and uses, oxoacids of sulphur (structures only).

Group 17 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens: preparation, properties and uses of chlorine and hydrochloric acid, interhalogen compounds, oxoacids of sulphur (structures only).

Group 18 Elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties; uses.

d-and f-block Elements: General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals- metallic character, ionization enthalpy, oxidation states, ionic radii, colour catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of $\text{K}_2\text{Cr}_2\text{O}_7$ and KMnO_4 .

Lanthanoids – Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction.

Actinoids - Electronic configuration, oxidation states.

Coordination Compounds: Coordination compounds – introduction, legends and coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, isomerism, importance of coordination compounds (in qualitative analysis, extraction of metals).

Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions.

Haloarenes: Nature of C-X bond, substitution reactions (directive influence of halogen for monosubstituted compounds only). Uses and environmental effects of dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only); identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses, some important compounds - methanol and ethanol.

Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols

Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties and mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes; uses.

Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

ORGANIC COMPOUNDS CONTAINING NITROGEN

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.

Cyanides and Isocyanides: will be mentioned at relevant places in context.

Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

BIOMOLECULES

Carbohydrates: Classification (aldoses and ketoses). Monosaccharides (glucose and fructose). Oligosaccharides (sucrose, lactose, maltose), Polysaccharides (starch, cellulose, glycogen), importance.

Proteins: Elementary idea of α -amino acids, peptide bond, polypeptides, proteins, primary structure, secondary structure, tertiary structures and quaternary structure (qualitative idea only), de-naturation of proteins; enzymes.

Vitamins: Classification and functions

Nucleic Acids: DNA & RNA

Polymers: Classification, natural and synthetic, methods of polymerization (addition and condensation), copolymerization. Some important polymers: natural and synthetic like polythene, nylon, polyesters, Bakelite, rubber.

CHEMISTRY IN EVERYDAY LIFE

Chemicals in medicine: analgesics, tranquilizers, antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines.

Chemicals in food: Preservatives, artificial sweetening agents.

Cleansing agents: Soaps and detergents, cleansing action

Section III

(A) BIOLOGY

Diversity in Living World: Diversity of living organisms: classification of the living organisms (five kingdom classification, major groups and principles of classification within each kingdom). Systematics and binomial system of nomenclature. Salient features of animal (non-chordates upto phylum level and chordates upto class level) and plant (major groups; Angiosperms upto subclass) classification. Botanical gardens, herbaria, zoological parks and museums

Structural Organization in Animals and Plants: Tissues in animals and plants. Morphology, anatomy and functions of different parts of flowering plants: Root, stem, leaf, inflorescence, flower, fruit and seed. Morphology, anatomy and functions of different systems of an annelid (earthworm), an insect (cockroach) and an amphibian (frog)

Cell: Structure and Function: Cell: Cell wall, cell membrane and cell organelles (plastids, mitochondria, endoplasmic reticulum, Golgi bodies/ dictyosomes, ribosomes, lysosomes, vacuoles, centrioles) and nuclear organization. Mitosis, meiosis, cell cycle. Basic chemical constituents of living bodies. Structure and functions of carbohydrates, proteins, lipids and nucleic acids. Enzymes: types, properties and function.

Plant Physiology: Movement of water, food, nutrients and gases, plants and water mineral nutrition. Respiration. Photosynthesis. Plant Growth and development.

Human Physiology: Digestion and absorption. Breathing and respiration. Body fluids and circulation. Excretory products and elimination. Locomotion and movement. Control and coordination.

Sexual Reproduction: Pollination and fertilization in flowering plants. Development of seeds and fruits. Human reproduction: reproductive system in male and female, menstrual cycle. Production of gametes, fertilization, implantation, embryo development, pregnancy and

parturition. Reproductive health - birth control, contraception and sexually transmitted diseases.

Genetics and Evolution: Mendalian inheritance. Chromosome theory of inheritance, deviations from Mendalian ratio (gene interaction - incomplete dominance, co-dominance, complementary genes, multiple alleles). Sex determination in human beings: XX, XY, linkage and crossing over. Inheritance pattern of haemophilia and blood groups in human beings. DNA: replication, transcription, translation. Gene expression and regulation. Genome and Human Genome Project. DNA fingerprinting. Evolution: Theories and evidences.

Biology and Human Welfare: Animal husbandry. Basic concepts of immunology, vaccines. Pathogens. Parasites. Plant Breeding, tissue culture, food production. Microbes in household food processing, industrial production, sewage treatment and gene generation. Cancer and AIDS. Adolescence and drug/alcohol abuse.

Biotechnology and its Applications: Recombinant DNA technology. Applications in Health, Agriculture and Industry. Genetically Modified (GM) organisms; biosafety issues. Insulin and BT cotton.

Ecology & Environment: Ecosystems: components, types and energy flow. Species, population and community. Ecological adaptations. Centres of diversity and conservation of biodiversity. National Parks and sanctuaries, Environmental issues.

(B) MATHEMATICS

Sets and Functions: Sets and their representations. Empty set. Finite and infinite sets, equal sets, sub sets, subsets of the set of real numbers especially intervals (with notations). Power set, Universal set, Venn diagrams, union and intersection of sets. Difference of sets, Complement of a set.

Relations and Functions: Types of relations; reflexive, symmetric, transitive and equivalence relations. One to one and onto functions, composite functions, inverse of a function, Binary operations. Ordered pairs, Cartesian product of sets, number of elements in the Cartesian product of two finite sets, Cartesian product of the reals with itself (upto $\mathbb{R} \times \mathbb{R} \times \mathbb{R}$). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special kind of relation from one set to another. Pictorial representation of a function, domain, co-domain and range of a function. Real valued function of the real variable, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum and greatest integer functions with their graphs. Sum, difference, product and quotients of functions.

Inverse Trigonometric Functions: Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

Trigonometric Functions: Measurement of angle and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin^2 x + \cos^2 x = 1$, for all x . Signs of trigonometric functions and sketch of their graphs. Expressing $\sin(x + y)$ and $\cos(x + y)$ in terms of $\sin x$, $\sin y$, $\cos x$ and $\cos y$. Deducing the identities like following:

$$\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \pm \tan x \tan y}, \quad \cot(x \pm y) = \frac{\cot x \cot y \pm 1}{\cot x \pm \cot y}$$

$$\sin x + \sin y = 2 \sin \frac{x + y}{2} \cos \frac{x - y}{2},$$

$$\sin x - \sin y = 2 \cos \frac{x + y}{2} \sin \frac{x - y}{2}$$

$$\cos x + \cos y = 2 \cos \frac{x+y}{2} \cos \frac{x-y}{2}$$

$$\cos x - \cos y = -2 \sin \frac{x+y}{2} \sin \frac{x-y}{2}$$

Identities related to $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$ and $\tan 3x$. General solution of trigonometric equations of the type $\sin \theta = \tan \alpha$. Simple applications of sine and cosine formulae.

ALGEBRA

Matrices: Concept, notation, order, equality, types of matrices, zero matrix, transpose of a matrix, symmetric and skew symmetric matrices. Addition, multiplication and scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Concept of elementary row and column operations. Invertible matrices and proof of the uniqueness of inverse, if it exists; (here all matrices will have real entries).

Determinants: Determinant of a square matrix (up to 3 X 3 matrices), properties of determinants, minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

Principle of Mathematical Induction: Processes of the proof by induction, motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers. The principle of mathematical induction and simple applications.

Complex Numbers and Quadratic Equations: Need for complex number especially $\sqrt{-1}$, to be motivated by inability to solve every quadratic equation. Brief description of algebraic properties of complex numbers, Argand plane and polar representation of complex numbers. Statement of Fundamental Theorem of Algebra, solution of quadratic equations in the complex number system.

Linear Inequalities: Linear inequalities, Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Solution of system of linear inequalities in two variables - graphically.

Permutations and Combinations: Fundamental principle of counting. Factorial n . Permutations and combinations. Derivation of formulae and their connections, simple applications.

Binomial Theorem: History, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, general and middle term in binomial expansion, simple applications

Sequence and Series: Sequence and Series. Arithmetic progression (A.P.), Arithmetic mean (A.M.) Geometric progression (G.P.), general term of a G.P., sum of n terms of a G.P. geometric mean (G.M.), relation between A.M. and G.M. Sum of n terms of the special series $\sum n$, $\sum n^2$, $\sum n^3$

CALCULUS

Continuity and Differentiability: Continuity and differentiability, derivative of composite functions, chain rule, derivatives of inverse trigonometric functions, derivative of implicit function, concept of exponential and logarithmic functions of implicit function. Concept of exponential and logarithmic differentiation. Derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems (without proof) and their geometric interpretations.

Applications of Derivatives: Applications of derivatives; rate of change, increasing/decreasing functions, tangents & normals, approximation, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool) simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

Integrals: Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts. Definite integrals as a limit of a sum. Fundamental theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals

Applications of the Integrals: Applications in finding the area under simple curves especially lines, areas of circles/parabolas/ellipses (in standard form only), area between the two above said curves (the region should be clearly identifiable).

Differential Equations: Definition, order and degree, general and particular solutions of a differential equation. Formation of differential equation whose general solution is given. Solution of differential equations by method of separation of variables, homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type:

$$\frac{dy}{dx} + Py = Q, \text{ where } P \text{ and } Q \text{ are either constants or functions of } x \text{ alone}$$

Limits and Derivatives: Derivatives introduced as rate of change both as that of distance function and geometrically, intuitive idea of limit. Definition of derivatives, relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

VECTORS AND THREE-DIMENSIONAL GEOMETRY

Vectors: Vectors and scalars, magnitude and direction of a vector. Direction cosines/ ratios of vectors. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of vector by a scalar, position vector of a point dividing a line segment in a given ratio. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors.

Three-dimensional Geometry: Direction cosines/ratios of a line joining two points. Cartesian and vector equation of a line, coplanar and skew lines, shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines (ii) two planes (iii) a line and a plane. Distance of a point from a plane

Linear Programming: Introduction, definition of related terminology such as constraints, objective function, optimization, different types of linear programming (LP) problems, mathematical formulation of LP problems, graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optional feasible solutions (up to three non-trivial constraints).

Mathematical Reasoning: Mathematically acceptable statements. Connecting words/phrases - consolidating the understanding of 'if and only if (necessary and sufficient) condition', 'implies', 'and/or', 'implied by', 'and', 'or', 'there exists' and their use through variety of examples related to real life and Mathematics. Validating the statements involving the connecting words - difference between contradiction, converse and contrapositive

COORDINATE GEOMETRY

Straight lines: Brief recall of 2D from earlier classes. Slope of a line and angle between two lines. Various forms of equations of a line; parallel to axes, point-slope form, slope-intercept form, two-point form, intercepts form and normal form. General equation of a line. Distance of a point from a line

Conic Sections: Sections of cone: circles, ellipse, parabola, hyperbola, a point, a straight line and pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbolas. Standard equation of a circle

Introduction to Three-dimensional Geometry: Coordinate axes and coordinate planes in three dimensions. Co-ordinates of a point. Distance between two points and section formula.

STATISTICS AND PROBABILITY

Statistics: Measure of dispersion. Mean deviation, variance and standard deviation of ungrouped/grouped data. Analysis of frequency distributions with equal means but different variances.

Probability: Multiplication theorem on probability. Conditional probability, independent events, total probability. Baye's theorem. Random variable and its probability distribution, mean and variance of haphazard variable. Repeated independent (Bernoulli) trials and Binomial distribution.

Random experiments: outcomes, sample spaces (set representation). Events: occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events. Axiomatic (set theoretic) probability, connections with the theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.

NOTE: Besides above syllabi, any other question of scientific and educational importance may be asked.

UNDERTAKING BY PARENT/GURDIAN

1. I, _____
F/o. M/o. G/o _____,
have carefully read and fully understood the law prohibiting ragging and the directions of the Supreme Court and the Central/State Government in this regard as well as the UGC Regulations on Curbing the Menace of Ragging in Higher Educational Institutions, 2009.
2. I assure you that my son/ daughter/ ward will not indulge in any act of ragging.
3. I hereby agree that if he/ she is found guilty of any aspect of ragging, he/ she may be punished as per the provisions of the UGC Regulations mentioned above and/ or as per the law in force.

Signed this _____ day of _____ month of _____ year

Signature
Name:

Address:

AFFIDAVIT BY THE STUDENT

(Note: To be submitted by the admitted candidates only)

- 1) I, _____ S/O, D/O Shri/ Smt. _____, having been admitted to _____, have received a copy of the Academic Regulations on ragging carefully read and fully understood the provisions contained in the said regulations.
- 2) I am fully aware as to what constitutes ragging and am fully aware of the penal and administrative action that is liable to be taken against me in case I am found guilty of or abetting ragging, actively or passively, or being part of a conspiracy to promote ragging.
- 3) I hereby solemnly aver and undertake that
 - a) I will not indulge in any behaviour or act that may be constituted as ragging under Academic Regulations.
 - b) I will not participate in or abet or propagate through any act of commission or omission that may be constituted as ragging under the regulations.
- 4) I hereby affirm that, if found guilty of ragging, I am liable for punishment under the regulations, without prejudice to any other criminal action that may be taken against me under any penal law or any law for the time being in force.
- 5) I hereby declare that I have not been expelled or debarred from admission in any institution in the country on account of being found guilty of, abetting or being part of a conspiracy to promote, ragging; and further affirm that, in case the declaration is found to be untrue, I am aware that my admission is liable to be cancelled.

Declared this ____ day of _____ month of _____ year.

Signature of Deponent

Name: _____

VERIFICATION

Verified that the contents of this affidavit are true to the best of my knowledge and no part of the affidavit is false and nothing has been concealed or mis-stated therein.

Verified at _____ on this the _____ day of _____ month _____ year

Counter Signature of Parent/ Guardian

Signature of Deponent

NOTE: It is mandatory for all the students of this University to fill the undertaking online at www.amanmovement.org or www.antiragging.in

**SPECIMENS OF CERTIFICATES TO BE SUPPLIED BY THE CANDIDATES FOR
CLAIMING RESERVATION OF RURAL AREA**

CERTIFICATE OF RURAL AREA

It is certified that _____ son/ daughter of Shri _____ has passed his/ her (i) 8th Class from Government Middle/High/ Senior Secondary School, _____ (Name of the place) (ii) 10th Class from Government High/ Senior Secondary School, _____ (Name of the place) (iii) 10+2 class from Government Senior Secondary School, _____ (Name of the place) which is located outside the limits of Municipal Corporation/ Municipal Council/Nagar Panchayat/ Cantonment Board/ Notified Area Committee. This school is affiliated to H.P. Board of School Education.

Signature with stamp

Executive Magistrate/Principal/ Head Master of the School

DO NOT FOLD

Dr. Y.S. Parmar University of Horticulture & Forestry, Nauni - Solan (HP)
OMR ANSWER SHEET **Sample OMR SHEET**

Name of Candidate :

Roll Number (in words) :

Roll Number				
①	①	①	①	①
①	①	①	①	①
②	②	②	②	②
③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

Question Booklet Number				
①	①	①	①	①
①	①	①	①	①
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③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

INSTRUCTIONS FOR FILLING THE SHEET

- This sheet should not be folded or crushed.
- Use **Blue/Black Ball Point Pen** Only.
- Circle should be darkened completely and properly.
- Cutting and erasing on this sheet is not allowed.
- Do not make any stray marks on the sheet.
- Do not use marker or white fluid to hide the mark.
- Mark only one choice for each question.

WRONG METHODS CORRECT METHOD

Question Booklet Series

A

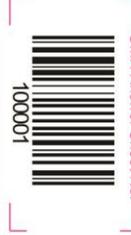
B

C

Optional Subject

Biology

Math



Date of Exam

DD MM YY

Name of Examination Centre

.....

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Signature of Candidate

.....

Signature of Invigilator

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ANSWERS

1	A	B	C	D	26	A	B	C	D	51	A	B	C	D	76	A	B	C	D
2	A	B	C	D	27	A	B	C	D	52	A	B	C	D	77	A	B	C	D
3	A	B	C	D	28	A	B	C	D	53	A	B	C	D	78	A	B	C	D
4	A	B	C	D	29	A	B	C	D	54	A	B	C	D	79	A	B	C	D
5	A	B	C	D	30	A	B	C	D	55	A	B	C	D	80	A	B	C	D
6	A	B	C	D	31	A	B	C	D	56	A	B	C	D	81	A	B	C	D
7	A	B	C	D	32	A	B	C	D	57	A	B	C	D	82	A	B	C	D
8	A	B	C	D	33	A	B	C	D	58	A	B	C	D	83	A	B	C	D
9	A	B	C	D	34	A	B	C	D	59	A	B	C	D	84	A	B	C	D
10	A	B	C	D	35	A	B	C	D	60	A	B	C	D	85	A	B	C	D
11	A	B	C	D	36	A	B	C	D	61	A	B	C	D	86	A	B	C	D
12	A	B	C	D	37	A	B	C	D	62	A	B	C	D	87	A	B	C	D
13	A	B	C	D	38	A	B	C	D	63	A	B	C	D	88	A	B	C	D
14	A	B	C	D	39	A	B	C	D	64	A	B	C	D	89	A	B	C	D
15	A	B	C	D	40	A	B	C	D	65	A	B	C	D	90	A	B	C	D
16	A	B	C	D	41	A	B	C	D	66	A	B	C	D	91	A	B	C	D
17	A	B	C	D	42	A	B	C	D	67	A	B	C	D	92	A	B	C	D
18	A	B	C	D	43	A	B	C	D	68	A	B	C	D	93	A	B	C	D
19	A	B	C	D	44	A	B	C	D	69	A	B	C	D	94	A	B	C	D
20	A	B	C	D	45	A	B	C	D	70	A	B	C	D	95	A	B	C	D
21	A	B	C	D	46	A	B	C	D	71	A	B	C	D	96	A	B	C	D
22	A	B	C	D	47	A	B	C	D	72	A	B	C	D	97	A	B	C	D
23	A	B	C	D	48	A	B	C	D	73	A	B	C	D	98	A	B	C	D
24	A	B	C	D	49	A	B	C	D	74	A	B	C	D	99	A	B	C	D
25	A	B	C	D	50	A	B	C	D	75	A	B	C	D	100	A	B	C	D