B.Pharm./Pharm.D. - INFORMATION BROCHURE 2026-27

PROCEDURE AND RULES FOR ADMISSION

A candidate who aspires to join any of the UG/PG programme offered by the Institutes of the University shall have to compulsorily appear for the Entrance Test conducted by the University.

The candidate must:

i) Register for the Entrance Test (by registering online at the website)

ii) Pay the entrance test fee to complete the registration

1) ENTRANCE TEST- GENERAL INSTRUCTIONS

1. The entrance test is a ranking examination for admission to the particular undergraduate or post graduate programmes at the particular institute for **2026-27** academic session.
2. The entrance tests will be held at centres in various cities and are conducted on specific date. Applicant may kindly note that mere appearance in the center-based entrance test and inclusion of name in the merit list does not confer any automatic rights to secure admission to the programme offered by the institute. The selection and admission to the programme is subject to fulfilling the admission criteria, eligibility, and any such criteria as may be prescribed by the University and availability of seats to the particular programme and institute at the time of counselling.
3. Applications of candidates producing false or fabricated information will not be considered.
4. Before initiating registration process, candidates should go through the Information brochure carefully for eligibility criteria, and pattern of examination etc. The information brochure shall be available at **https://www.bvuniversity.edu.in/**
5. Incomplete application if not in accordance with instructions will not be considered and processed. Applicant should carefully fill up all the fields during application process and complete the payment process. Application once submitted finally, cannot be withdrawn/modified.
6. The entrance test fee, once paid, will not be refunded under any circumstances. Candidates who remain absent for the entrance test will forfeit their entrance test fee.
7. The Information brochure is subject to modification without notice. Please check the website regularly for updates, if any.
8. The authorities of the institute reserve the right to withdraw permission, if any, granted inadvertently to any candidate who is not eligible to appear in the entrance test even though Admit card/Registration number has been issued.
9. The admissions provided to candidates based on the result of the entrance test will be purely provisional and subject to the fulfilment of eligibility criteria as mentioned in the Information brochure.
10. Under no circumstance a change in examination centre once selected by the candidate will be allowed.

11. All the correspondence should preferably be addressed by e-mail. The e-mail query shall be addressed only if it is not anonymous and not vague. All communications with candidate will be done through the official email address **cet@bharatividyapeeth.edu** only. Please ensure that the email address is whitelisted in your registered email. If you do not receive the registration/payment confirmation mail, within 24 hours please check your spam/junk folder just in case these emails got delivered there instead of your inbox. Candidates must declare and maintain a valid and unique email account and a mobile phone number throughout the admission process.
12. Candidates are deemed to have read, agreed, and accepted the terms and conditions in the Information brochure and then, they should complete the registration/application form for the entrance test.
13. In case of differences of opinion or any ambiguity in interpretation and implementation of any of the instructions/ terms/ rules/ criteria regarding the determination of eligibility/ conduct of examinations/ registration of candidates/ information contained herein, the same shall be referred to the Vice Chancellor of the **Bharati Vidyapeeth (Deemed to be University)** and his decision shall be final and binding on all concerned.
14. Any legal matters arising out of the total admission process through the All India Common Entrance Test of **Bharati Vidyapeeth (Deemed to be University), Pune – 30** i.e. the entrance test, shall be within the exclusive jurisdiction of competent courts at Pune, Maharashtra State only.

2. INTAKE OF THE PROGRAMME

The annual intake of first year **B.Pharm** programme is 100 seats, out of these 60 seats are in the grant-in-aid division and remaining 40 seats are under self-financed division. All students admitted through **BV-PHARMUG-2026**, Entrance Test will be admitted on 40 seats for B.Pharm and 30 for Pharm D. which are self-financed programmes.

The seats will be filled on merit, based on their performance in **BV-PHARMUG-2026**, entrance test conducted by Bharati Vidyapeeth (Deemed to be University) at the designated centers.

Programmes & Intake Capacities at

Bharati Vidyapeeth (Deemed to be University) Poona College of Pharmacy, Pune

Sr. No.	Name Of Programme	Total intake for first year
1.	B.Pharm.(self-financed)	**40**
2.	Pharm D.	**30**

Note: Of the 40 seats for B. Pharm or 30 seats for Pharm D., 15% seats are reserved under Foreign / NRI /P.I.O. / OCI/ Institutional Quota Merit Category. Candidates seeking admissions to the seats under Foreign / NRI /P.I.O. / OCI/ Institutional Quota Merit category will have to apply separately on a prescribed application form. The application form will be available at the office of **The Registrar, Bharati Vidyapeeth (Deemed to be University), Bharati Vidyapeeth Bhavan, L.B.S. Marg, Pune-30. The form fee for this category is Rs. 1,000/- (nonrefundable)**. Seats remaining vacant after allotment to Foreign / NRI / P.I.O./ OCI Students (based on Merit), will be allotted to Indian students under

Institutional Quota on the basis of merit based of the marks obtained by them in **BV-PHARMUG-2026**, The last date for submission of form to this category at the above mentioned address is **5th June 2026 before 5.00 p.m.**

3. ELIGIBILITY

3.1 Eligibility requirement for BV-PHARMUG-2026 and subsequent admission to B Pharm programme:

(i) The candidate should be a citizen of India;
(ii) The candidate should have passed 10+2 examination or its equivalent examination with English as one of the subjects and Physics, Chemistry as compulsory subjects along with Mathematics or Biology subject as optional subjects individually:
"Provided that, the students possessing 10+2 qualification from non-formal and non-class rooms based schooling such as National Institute of Open Schooling, open school systems of States etc. shall not be eligible for admission to **B.Pharm Course**";

OR

(iii) Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations; and
(iv) The candidate should have appeared and should obtain non zero score in **BV-PHARMUG-2026** conducted by the Bharati Vidyapeeth (Deemed to be University), Pune.

3.2 Eligibility requirement for BV-PHARMUG-2026 and subsequent admission to Pharm. D. programme:

(i) The candidate should be a citizen of India;
(ii) The candidate should have passed 10+2 examination or its equivalent examination with English as one of the subjects and Physics, Chemistry as compulsory subjects along with Mathematics or Biology subject as optional subjects individually:
"Provided that, the students possessing 10+2 qualification from non-formal and non-class rooms based schooling such as National Institute of Open Schooling, open school systems of States etc. shall not be eligible for admission to **Pharm.D. Course**";

OR

(iii) The candidate should have passed Diploma in Pharmacy (D. Pharmacy) course from an institution approved by the Pharmacy Council of India under section 12 of the Pharmacy Act;

OR

(iv) Any other qualification approved by the Pharmacy Council of India as equivalent to any of the above examinations; and
(v) The candidate should have appeared and should obtain non zero score in **BV-PHARMUG-2026** conducted by the Bharati Vidyapeeth (Deemed to be University), Pune.

4. BASIS OF SELECTION FOR ADMISSION

4.1 A Candidate desirous of seeking admission to **B.Pharm/Pharm D.** programme should fulfill the minimum eligibility condition as stated in point no.3 above the final admission will be offered based solely on the merit obtained at the all India entrance test **BV-PHARMUG-2026**, conducted by Bharati Vidyapeeth (Deemed to be University),Pune.

4.2 He / She must have appeared for the **BV-PHARMUG-2026**, Entrance Test conducted by Bharati Vidyapeeth (Deemed to be University), Pune at designated centres.

4.3 The Candidate shall be offered admission on the basis of his/her rank in the final merit list and availability of the seats for a particular programme at the institute of the candidate's choice at the time of counseling and admission.

4.4 In case two or more candidates obtaining equal marks in the **BV-PHARMUG-2026**, the inter-se-merit of such candidates shall be determined in order of preference as under:

a) Candidate obtaining higher marks in Chemistry in the entrance examination, if equal.

b) Candidate obtaining higher total marks in 12th std. qualifying examination (such a tie will be settled at the time of counselling) if equal.

c) In case of tie at this level, computerized random selection of candidate will be carried out.

5. NATURE OF ENTRANCE TEST "BV-PHARMUG-2026"

5.1 The **BV-PHARMUG-2026**, is an entrance test for admission to **B.Pharm /Pharm D.** programme. It will be of 200 marks and shall be of 180 minutes' duration.

The questions will be based on Syllabus of Maharashtra State Board of Secondary and Higher Secondary Education.(syllabus of Std. XI science curriculum and Std. XII science curriculum) The test paper will consist of 4 sections of Multiple Choice Questions (MCQ), one mark for each with no negative marking.

5.2 **Details as Below:**

Section No.	Subject	No. of questions	Marks
Section-1	**Physics**	60	60
Section-2	**Chemistry**	60	60
Section-3a	**Mathematics**	80	80
Section-3b	**Biology**	80	80

The questions will be based on the detailed syllabus available at website https://www.bvuniversity.edu.in/admission/cet-syllabus

For candidates seeking admission to first year **B. Pharm. / Pharm D.** degree course it is mandatory that the candidate must appear for Physics, Chemistry and either Biology or Mathematics. The choice between Biology **OR** Mathematics has to be made during filling up of application form online.

6. CENTER BASED ENTRANCE TEST SCHEDULE AND ADMIT CARDS

The entrance test for various UG & PG programmes will be held as per the dates mentioned in the entrance test schedule displayed at https://www.bvuniversity.edu.in

The Timings & Centre address of the entrance test will be communicated via admit cards. The admit cards will be available three to four days prior to the date of entrance test. The admit card must be downloaded & printed from the official website. The candidate will have to, visit https://www.bvuniversity.edu.in click on download admit card tab & login with their credentials provided. The login details will be sent to the registered email id.

1. The candidate must report as per the time schedule at the test venue as mentioned in the admit card.
2. No candidate will be allowed to enter the examination centre after the scheduled time of commencement of examination.
3. The candidates appearing for the entrance test should, in their own interest, check their eligibility in all respect so as to avoid disappointment at any later stage. Your application for the entrance test is "PURELY PROVISIONAL" pending detailed scrutiny of your fulfilling the eligibility conditions as mentioned in the information brochure for the programme applied. In case, it is found that the candidate does not fulfil the eligibility criteria, application of such candidate is liable to be rejected at any stage of admission process or even after joining in the institute.
4. Admit card along with original, photo Identity Proof must be carried to the test centre. Acceptable Photo ID is any, valid and non-expired any one of the following: (Aadhaar Card / PAN card/ Driving license/ Voter ID/ Passport). The name on the photo identification must match with the name as show on the admit card.

   Note: Soft copy of ID proof will not be accepted.

7. TEST CENTRES

The Entrance test will be held in 62 centres throughout the country giving students a wide choice of test centres. The list of cities where the Entrance test centers are located is as below:

Sr. No.	STATE	CITY	Sr. No.	STATE	CITY
1	ANDHRA PRADESH	VIJAYAWADA	**32**	MAHARASHTRA	MUMBAI
2	ASSAM	GUWAHATI	**33**	MAHARASHTRA	NAGPUR
3	BIHAR	GAYA	**34**	MAHARASHTRA	NASHIK
4	BIHAR	PATNA	**35**	MAHARASHTRA	NAVI MUMBAI
5	CHANDIGARH	BAREILY	**36**	MAHARASHTRA	PUNE
6	CHANDIGARH	CHANDIGARH	**37**	MAHARASHTRA	SANGLI
7	CHHATISGARH	BILASPUR (CG)	**38**	MAHARASHTRA	SATARA
8	CHHATISGARH	RAIPUR	**39**	MAHARASHTRA	SOLAPUR
9	GUJARAT	AHMEDABAD	**40**	MAHARASHTRA	THANE
10	GUJARAT	RAJKOT	**41**	MANIPUR	IMPHAL
11	GUJARAT	SURAT	**42**	NEW DELHI	DELHI
12	GUJARAT	VADODARA	**43**	ORISSA	BHUBANESWAR
13	HARYANA	HISAR	**44**	PUNJAB	AMRITSAR
14	HARYANA	KARNAL	**45**	RAJASTHAN	JAIPUR
15	JAMMU & KASHMIR	JAMMU	**46**	RAJASTHAN	JODHPUR
16	JAMMU & KASHMIR	SRINAGAR	**47**	RAJASTHAN	KOTA
17	JHARKHAND	JAMSHEDPUR	**48**	RAJASTHAN	UDAIPUR
18	JHARKHAND	RANCHI	**49**	TAMIL NADU	CHENNAI
19	KARNATAKA	BELGAUM	**50**	TAMIL NADU	MADURAI
20	KARNATAKA	BENGALURU	**51**	TELANGANA	HYDERABAD
21	KERALA	KOCHI	**52**	TRIPURA	AGARTALA
22	KERALA	KOLLAM	**53**	UTTAR PRADESH	AGRA
23	KERALA	THIRUVANANTHAPURAM	**54**	UTTAR PRADESH	ALLAHABAD
24	MADHYA PRADESH	BHOPAL	**55**	UTTAR PRADESH	GHAZIABAD
25	MADHYA PRADESH	INDORE	**56**	UTTAR PRADESH	GORAKHPUR
26	MADHYA PRADESH	JABALPUR	**57**	UTTAR PRADESH	KANPUR
27	MAHARASHTRA	AMRAVATI	**58**	UTTAR PRADESH	LUCKNOW
28	MAHARASHTRA	AURANGABAD	**59**	UTTAR PRADESH	MUZAFFARPUR
29	MAHARASHTRA	JALGAON	**60**	UTTAR PRADESH	VARANASI
30	MAHARASHTRA	KARAD	**61**	UTTARAKHAND	DEHRADUN
31	MAHARASHTRA	KOLHAPUR	**62**	WEST BENGAL	KOLKATA

Note: If the candidates count for a centre is less than 25, then the candidate will be allocated to the nearest available centre.NO REQUEST FOR CHANGE IN EXAMINATION CENTRE WILL BE CONSIDERED UNDER ANY CIRCUMSTANCES. BVDU reserves the right to add/delete/change the test cities due to unavoidable circumstances without prior intimation. BVDU reserves the right to change or allot a test city other than the one requested by the candidate, if the requested city is not available for any reason.

1. Candidates are advised to familiarize themselves with the route and location of the examination center to appear for the entrance test.
2. Possession and use of electronic devices such as Mobile Phone, Micro Phone or any other Associated Accessories, Calculator, Log Tables, Pager, Digital Diary Books, Cell phones, calculators, watch calculators, alarm clocks, digital watches with built-in calculators/memory, or any electronic gadgets—including smart devices such as smartwatches, fitness bands, Meta Glass, or similar wearable technology—will not be allowed in the test hall etc. are strictly prohibited in the Examination Hall. If any candidate is found in possession of any these devices/ documents his/her candidature is liable to be cancelled. As such the candidates should not bring Mobile Phone/ Micro Phone etc. at the Entrance test. BHARATI VIDYAPEETH & EXAM CENTER will not be responsible for its safe custody.
3. The authorities of Bharati Vidyapeeth (Deemed to be University) however reserve the right to make suitable changes in the test venue or schedule of the Entrance test.
4. Only registered candidates with valid admit card and identity card will be allowed at the examination center
5. The candidates must reach the test centre at least one and half hours prior to the commencement of test on the day of the Entrance test.

8. ENTRANCE TEST FEE:

8.1 **Entrance test fee: Rs 1,700 /- (Non-Refundable)**

8.2 The entrance test fee shall be paid through payment gateway using internet banking mode or through debit/credit card/UPI. Service charges and other taxes for transaction as applicable by bank has to be paid by the applicant.

8.3 The entrance test fee, once paid, will not be refunded under any circumstances. Candidates who remain absent for the entrance test will forfeit their entrance test fee.

9. APPLICATION PROCEDURE

A candidate desirous of appearing for the entrance test is required to complete the prescribed online application form and submit to the University along with entrance test fee.

The application form is available online at: **http://bvuniversity.edu.in**

BV(DU) CET **Scan QR Code to apply**

The candidates should strictly follow the instructions given in the website while filling up the application form online, and must read the instructions carefully before filling up the online application form. Instructions are available on website. Before filling up the application form online, candidates should:

a) Create their login credential

b) Have a scanned image of their recent passport size photograph (Refer to guidelines mentioned on the Application Portal)

c) Have a scanned image of their signature, ready before filling up the online application form.

d) Read the procedure and guidelines for online payments of test fee which is to be made through Credit Card/ Debit Card/ Internet Banking/UPI. (Refer to guidelines, terms and conditions for using online payment mentioned on the website) The candidate may then proceed to fill the form and submit the completed online application form. The candidate should take a print of payment receipt and completed online application form for reference and as a record. Candidates should submit the completed online application form on or before the last date mentioned in the website.

Candidate should ensure that all information entered during the online application process is correct. Applications of candidates producing false or fabricated information will not be considered.

The authorities of the University do not edit /modify/alter any information entered by the candidates at the time of online application process under any circumstances. Any request for change in information thereafter will not be entertained.

For any queries related to filling online application form,

Email to: cet@bharatividyapeeth.edu Tel. No. 020-24407131/132

***Note:** **NO REQUEST FOR CHANGE IN EXAMINATION DATE AND EXAMINATION CENTRE WILL BE CONSIDERED UNDER ANY CIRCUMSTANCES.**

The university will not be responsible if the candidate has filled in and submitted an application for a different test from the one intended to appear. In such cases the university will not refund the entrance test fees. For any queries please mail us at email: **cet@bharatividyapeeth.edu**

10. INSTRUCTIONS REGARDING ENTRANCE TEST (Objective Test)

About Question Paper:

1) All questions are compulsory. for each question, four alternatives answers have been provided out of which only one answer is correct.
2) Only one question will be displayed on the computer screen at a time.
3) There is one mark for each question which will be displayed at the top right-hand corner of each question.
4) There is no negative marking.
5) The question paper will appear in English language.
6) Candidates can attempt question in any sequence by clicking on the question number in the **Section Wise Summary Report** reflecting on the left-hand side of the screen.
7) The exam screen will continuously display the remaining time at the top right-hand corner of the question paper.
8) The candidates may ask the Invigilator their doubts or questions before the commencement of test. No queries shall be entertained after the commencement of the examination.
9) Additional rough Sheet (if required) shall be provided to the candidates for rough work during the test. All the rough sheets need to be returned to the Invigilator before leaving the test venue.

About Answering Questions:

1) In order to answer a question, you have to **`Click'** the option you think is appropriate/ correct. The alternative which has been clicked on will be highlighted and shall be treated as the answer given by you for the question.
2) If you do not wish to attempt the question then you should not click on any option for that question and may click **`Next'.**
3) You can **`Bookmark'** questions to review before submitting.
4) You can navigate between questions either by clicking on **`Previous/Next'** or by directly clicking on the question numbers which are displayed as attempted/ un-attempted /book marked in the **Section Wise Summary Report.**

About Preview and Submission:

1) The answers are saved whenever the candidate navigates e.g. by clicking on **Next/ Previous** button or by clicking on other question number.
2) The candidates can make changes in their choice of alternative only before the paper is **auto** submitted.
3) Candidate can switch to any of the question by clicking on summary panel shown at the left-hand side of the screen.
4) After the expiry of the test time, the candidates will not be able to attempt any question or check their answers. The answers of the candidate would be saved and submitted automatically by the computer system.
5) A "Thank you" message will appear confirming the completion and submission of the examination.

Candidates can be debarred/ disqualified by the Chief Proctor of the Exam Centre for any of the following reasons:

1. Creating a disturbance.
2. Impersonation - Attempting to take the examination for someone else.
3. Giving or receiving assistance of any kind during the examination and communication in any form between candidates or with outsiders.
4. Smoking or eating in the Examination Hall.
5. Attempting to tamper with the operation of the computer or meddling with system.
6. Exchanging any papers, documents or any other material with other candidates.
7. Leaving the test centre without the permission from the invigilator.
8. Using prohibited aids, items not allowed, such as:
   - Stationary items including Pens, Pencils, Scales, Papers, Books, Notebooks, Calculators, Watch calculators, etc.
   - Mobile phones, Pagers, Health bands, Watches, any other electronic gadgets etc.
   - Jewelry including Earrings, Finger rings, Metal Bangles, Pendants, Nose pins, Chains, Necklace etc.
   - Shoes & socks, Wallets, Sunglasses, Jackets etc. are not allowed. Candidates will be asked to remove their Jackets, Footwear before entering the Test Hall.
9. Attempting to copy examination questions and /or examination responses (in any format) from the examination centre.
10. Attempting to access any unauthorized software/program during the examination.
11. Failing to follow invigilators directions.
12. Manhandling of invigilators or test centre staff.
13. Resorting to unfair means or trying to influence in any way for examination results shall be considered as a serious offence and any candidate found guilty of such offence on the report of any person duly authorized in conduct of the examination, shall be liable to have his/her name removed from the list of candidates entered for the Examination and may also be further dealt with in such manner as the examination authority may deem fit.
14. Candidates shall maintain silence while appearing for the exam. Any conversation or gesticulating or disturbance or attempt to change seats/question paper in the Examination Hall shall be deemed as unfair means.
15. If a candidate is found indulging in unfair means or impersonation, the candidature of such candidate shall be cancelled. The candidate shall be expelled from the examination by the Test Centre Administrator and such matter shall be reported to concerned authorities for appropriate action.
16. The Test Centre Administrator at the Exam Centre is authorized to debar the candidate/s from the examination centre for any misconduct.
17. A mock test will be available on the bvuniversity.edu.in website for practice for all candidates who have been issued Admit Cards for the exam.

11. DECLARATION OF RESULT

A single merit list will be declared for candidates registered for **BV-PHARMUG-2026**, programmes based on the entrance test (based on 200 marks), will be declared & notified at the website Please visit http://www.bvuniversity.edu.in for more details.

Separate merit list will be prepared for regular category and Foreign/NRI/PIO/OCI/Institutional Quota Merit Category.

Candidate will have to login at the application portal to view their result. It is not possible to send individual invitation for counselling to the candidates. **It shall be the responsibility of the individual candidate to see their own merit number and appear for the counselling at the centre of his/her choice as per schedule will be notified at the website.**

12. COUNSELLING AND ON THE SPOT ADMISSIONS

12.1 The schedule and venue of counselling and on the spot admission session will be notified at the website. Please visit www.bvuniversity.edu.in for more details.

FAILURE TO REPORT FOR COUNSELLING ON THE SCHEDULED DATE AND TIME WILL RESULT IN INSTANTANEOUS CANCELLATION OF A CLAIM OF THE CANDIDATE TO THE SEAT.

The admission (provisional) will be offered based solely on the merit obtained at the all India entrance test. The allocation of the institute will be made based on the preference provided by the candidate while filling the online application form. The candidate must note that appearance for the entrance test and inclusion of name in the merit list does not necessarily mean that he/she will get admission to the institute & programme. The admission will depend upon the availability of seats to the particular programme and the institute at the time of his/her counselling. It shall be candidate's responsibility to see the result of Entrance test **BV-PHARMUG-2026** and confirm their merit no. and remain present for counselling as per the schedule test. It may not be possible to send individual invitation for counselling to the candidates. They may attend counselling session as per the schedule given in this brochure, on their own.

If any candidate finds it impossible to be physically present for the counselling due to unavoidable circumstances, he/she may authorize any other responsible individual to represent him/her at the counselling. This representative must carry with him/her the letter of authorization in the format given in **ANNEXURE-I**, as well as all the documents listed in **12.2. If the candidate or his representative fails to report for the counselling on the date and the time mentioned in the schedule of counseling, his/her claim for admission to any of the programme will be forfeited.** The choice of programme made by the candidates / his / her representative will be final and binding and will not be ordinarily altered later.

12.2 The following certificates in original along with self-attested two copies each of the same are to be submitted at the time of counseling and on the spot admission.

(a) BVDU Entrance Test result / **BV-PHARMUG-2026** CET Score card.

(b) For a Proof of date of Birth: SSC Certificate or School/College Leaving Certificate and Certificate of Domicile/Nationality Certificate
(c) Statement of marks of 10th std examination.
(d) Statement of marks of 12th std examination.
(e) Statement of marks of D.Pharm. Ist and IInd year (if applicable)
(f) Transfer Certificate / Leaving certificate
(g) Migration Certificate (for students who had joined any other course after 12th).
(h) Gap Certificate (if applicable)
(i) Certificate of Medical Fitness.
(j) An affidavit in the given format signed by you and countersigned by your parent/guardian. **(ANNEXURE-II or ANNEXURE-III)**
(k) Six recent passport-size photographs with your names written on backside.
(l) The amount of Tuition fees, other fees and Hostel fees in case you need an admission to Hostel.
(m) Caste Certificate and Caste Validity Certificate issued by Govt. of Maharashtra.
(n) Aadhar Card Photo Copy

12.3 After scrutiny of their Certificates, the candidates are offered provisional admission according to their rank, availability of seats and payment of fees.
Admissions to BV-PHARMUG-2026 will be confirmed subject to
i) Payment of fees in full on the day of admission round
ii) Eligibility certificate from university

13. FEE STRUCTURE ONLY FOR 2026-27

The fees to be paid per annum for the First Year **B.Pharm.** Programme at Bharati Vidyapeeth (Deemed to be University), **Poona College of Pharmacy, Pune** –

Sr. No.	Programme	Regular Merit Category	Institutional Quota Merit Category	Foreign / NRI / PIO / OCI Merit Category
1.	B. Pharm (Self-Financed Division for 40 seats)	Rs.1,65,375/-	Rs.2,67,470/-	US $ 6685

***Note:** **The above fees are per annum. The fees shall be revised upwards @ 5% per annum.**

The fees to be paid per annum for the **First Year Pharm.D.** Programme at Bharati Vidyapeeth (Deemed to be University), Poona College of Pharmacy, Pune

Sr. No.	Programme	Regular Merit Category	Institutional Quota Merit Category	Foreign / NRI / PIO / OCI Merit Category
1.	Pharm D. (Self-Financed)	Rs.2,13,005/-	Rs.3,10,000/-	US $ 9705

***Note:** **The above fees are per annum. The fees shall be revised upwards @ 5% per annum.**
The Candidate is urged to note that "NO DONATION OR CAPITATION FEE" is required to be paid for admission. The candidate is cautioned against falling prey to any such assurance/offer by any individual or outside agency.

Mode of Payment of Fees shall be as given below

The fee is to be paid either through online mode or Bank Draft of any Nationalized bank drawn in the name of "**The Principal, Bharati Vidyapeeth Poona College of Pharmacy, Pune payable at Pune**". The details of payment through online mode will be informed.

The fees are to be paid in full during counselling and spot admission round subject to approval from university (competent authority)

In case the candidate fails to remit the entire amount of fees, he/she is likely to lose his/her claim for admission. At the time of admission, a candidate has to pay library deposit. This deposit shall be refunded upon completion of the course.

If a candidate fails to confirm admission given to him/her, the same shall stand cancelled and the resultant vacancy will be offered to the next eligible candidate from the list. However, if candidate is unable to report in person, he /she can depute a representative with an authority letter signed by the candidate (**ANNEXURE-I** appended in this brochure) along with requisite documents under sec.**12.2** above and Demand Draft of fees.

There are a few seats available in the hostel which will be allotted on first come first served basis.

Those who are desirous of getting admission to the hostel will be required to pay the entire amount of rent for the year as well as the mess charges for the entire academic year at the time of admission

only. The details of hostel fees will be given in counselling letter. The payment for the hostels should be made by separate Demand Draft.

Hostel facility:

If you desire to have hostel accommodation, limited hostel accommodation is available on the campus both for boys and girls. The same will be allotted on first come first served basis. The hostel room rent and other charges will have to be paid at the time of admission only. There are different hostels for girls and boys each having different fee at Pune campus. Those who are desirous of getting admission to the hostel will be required to pay the entire amount of rent for the year as well as mess charges for the entire academic year at the time of admission only. The details of hostel fees will be given in counselling letter. The payment for the hostels should be made by separate Demand Draft. You should bring Demand Draft for the hostel of your choice. Cash or cheque will not be accepted. For details contact to respective hostel.

14. REFUND OF FEES

The cancellation of admission and refund of fees will be as per the UGC guidelines issued by UGC from time to time.

15. CONDUCT AND DISCIPLINE

If any student is found indulging in antinational activities, or in activities that run contrary to the letter and spirit of the provisions of Acts and Laws enforced by the Government, or any activity that causes his/her behavior to be contrary to rules of discipline, will be liable to be expelled from the institute forthwith without any notice by the Principal/Director of the institute. If any of the statements made in application form or any information supplied by the candidate in connection with his/her admission is, at any time, found to be false or incorrect and willful suppression of facts, his/her admission will be cancelled forth with. The fees will be forfeited, and he/she may be expelled from the institute by the Principal /Director and prosecuted, if deemed necessary.

Each of the candidates seeking admission in the institute is required to give the following undertaking at the time of admission: -

A) "I have read all the Rules of Admission for the current year and after fully understanding these rules, I have filled in this application form for admission for the current year.

B) The information given by me in my application is true to the best of my knowledge and belief.

C) I have not been debarred from appearing at any examination conducted by any Government constituted or Statuary autonomous examination authority in India.

D) I fully understand that the Principal/Director of the institute will have right to expel, rusticate me from the institute for any infringement of the Rules of good conduct and discipline in general and particularly the ones referred to above and the rules of good

conduct and discipline prescribed by the institute / University and in the undertaking given above."

16. MISCELLANEOUS:

16.1 The candidates are informed that the medium of instruction, for all programmes is English.

16.2 At the time of seeking admissions, a candidate will be provisionally admitted to programme at the Institute subject to Eligibility Clearance from the University.

16.3 The Institution shall have the right to satisfy about the conduct and character of a candidate by verifying antecedents of a candidate through the appropriate police-authority, before admitting him/her to the Institute.

16.4 The attention of the candidates is particularly invited to the provisions of rules regarding the eligibility of candidates for admission to the **(BV-PHARMUG-2026) B.Pharm. or Pharm.D.** programme. If at any stage it is found that a candidate is not Eligible either for admission to **(BV-PHARMUG-2026) B.Pharm. or Pharm.D.** programme, his/her candidature and admission even if granted provisionally will be cancelled forthwith.

16.5 Differences of opinion and disputes arising in the interpretation and implementation of the clauses in this brochure, if any, will be referred to the Vice-Chancellor of the Bharati Vidyapeeth (Deemed to be University), Pune and his decision shall be final and binding on all the concerned.

17. COURT JURISDICTION:

Any legal matters arising out of the entire admission process through Common Entrance Test conducted by Bharati Vidyapeeth (Deemed to be University), Pune-30 i.e. **BV-PHARMUG-2026** will be in the jurisdiction of courts of Pune, Maharashtra State

IMPORTANT NOTICE

The students and the parents will have to submit the printouts of anti-ragging undertaking online on the following websites:

1. www.antiragging.in
2. www.amanmovement.org

This has to be submitted immediately after confirmation of the admission.

Note:

As per the directions of Hon'ble Supreme Court of India Order No. SLP(C) No. 24295/2004 and SLP No. 143656/2005, WP (C) No. 173/2006 and SLP(C) No. 24296-24299/2004 all the students are hereby informed the following.

"If any incidents of ragging come to the notice of the authority, the concerned students shall be given liberty to explain and if his explanation is not found satisfactory the authority would expel him from the institution."

All the students should note the above directives from the Supreme Court.

Registrar
Bharati Vidyapeeth
(Deemed to be University), Pune, India

ANNEXURE-1

AUTHORIZATION FOR REPRESENTATIVE

I, ……., son /daughter of

……., being unable to attend the counselling

session for admission to the **B. Pharm./Pharm.D.(Self-Financed)** programme in Bharati Vidyapeeth (Deemed to be University) (name of the Institute) on …… here by authorize ……..son/daughter of ……. whose photograph is affixed below and who will sign as shown below, to represent me at the counselling and on-the spot-admission. I hereby declare that the choice of programme made by this authorized representative will be irrevocable and that it will be final and binding on me. This authorized representative will present all the necessary documents, pay the appropriate fees and complete all the necessary formalities on my behalf.

Name of the candidate: ……
(IN CAPITAL LETTERS)

Seat No. (**BV-PHARMUG- 2026** Examination): ……

Place: ……

Date: ……

Reason for absence: ……

Signature of the Representative

A recent passport size photograph of the representative should be affixed here

Signature of the Candidate

A recent passport size photograph of the candidate should be affixed here

ANNEXURE-II

AFFIDAVIT FORMAT

a) B.Pharm

I, _____son/daughter of _____ hereby solemnly affirm that the following statements made by me are true to the best of my knowledge and belief,

A) I am a citizen of India

B) I have studied in class 11th and 12th in India and have passed a qualifying examination in the subjects of Physics, Chemistry and Biology or Mathematics individually and have obtained at least 45% (40% in case of candidates of SC/ST categories) marks together in those subjects and I have also Passed in the subject of English.

OR

I have passed D. Pharmacy from …… and have obtained at least 45% marks together.

C) I have studied and understood the rules governing counselling, admission, procedure, fee structure and agree to abide by these rules.

D) If admitted to any of the Institutions of the Bharati Vidyapeeth (Deemed to be University), I will abide by all its rules and regulations, especially those regarding discipline, attendance, examinations and payment of fees. I understand that failure to comply with the rules and regulations will invite an appropriate disciplinary action from the institutional authorities.

E) I will not involve myself in any action of ragging during the course of my education in this University. I understand involvement in ragging is a cognizable offence and it will result in police action and would result into cancellation of my admission to the programme.

F) I will refrain from the use of cigarettes and tobacco products.

Name of the candidate: Date:

Place: **Signature of the candidate**

I, …… the father/mother/guardian of …… an applicant for admission to course at Bharati Vidyapeeth (Deemed to be University), hereby solemnly affirm that all the above statements made by son/daughter/ward are true to the best of my knowledge and belief. I will be responsible for the payment of his/her fees on time and for his/her conduct.

Name of the parent/guardian
Relationship to candidate
Date:
Address with Phone No:

Signature of the parent/guardian

ANNEXURE-III

AFFIDAVIT FORMAT

b) Pharm. D.

I, ... son/daughter of ..... hereby solemnly affirm that the following statements made by me are true to the best of my knowledge and belief,

A) I am a citizen of India

B) I have completed 17yrs of age on or before 31st December of the year of admission

C) I have studied in class 11th and 12th in India and have passed a qualifying examination in the Physics and Chemistry as compulsory subjects with one of the following subjects mathematics or biology

OR

I have passed Diploma in Pharmacy from a Institution approved by Pharmacy Council of India.

D) I have studied and understood the rules governing counselling, admission, procedure, fee structure and agree to abide by these rules.

E) If admitted to any of the Institutions of the Bharati Vidyapeeth (Deemed to be University), I will abide by all its rules and regulations, especially those regarding discipline, attendance, examinations and payment of fees. I understand that failure to comply with the rules and regulations will invite an appropriate disciplinary action from the institutional authorities.

F) I will not involve myself in any action of ragging during the course of my education in this University. I understand involvement in ragging is a cognisible oftence and it will result in police action and would result into cancellation of my admission to the programme.

G) I will refrain from the use of cigarettes and tobbacco products.

Name of the candidate :

Date :

Place :

Signature of the candidate

I, ... the father/mother/guardian of ..... an applicant for Pharm.D. at Bharati Vidyapeeth (Deemed to be University), hereby solemnly affirm that all the above statements made by son/daughter/ward are true to the best of my knowledge and belief. I will be responsible for the payment of his/her fees on time and for his/her conduct.

Name of the parent/guardian

Relationship to candidate

Date :

Address with Phone No. :

Signature of the parent/guardian

RECOMMENDED SYLLABUS FOR CET
B.Pharm / Pharm D

PCM or PCB

XI - MATHEMATICS – PART-1

1.	Angle and its Measurement	Directed Angles, Definition , Types of Angles (Zero angle, One rotation angle, Straight angle, Right angle, Angle in standard position, Angle in a quadrant, Quadrantal angles, Co-terminal angles), Measures of angle (Degree measure, Radian measure), Theorem : $\pi^c = 180^0$, Arc Length And Area Of A Sector ($A = \frac{1}{2}r^2\theta,\ S = r\theta$).
2.	Trigonometry - I	Introduction, Definition of trigonometric ratio's, Trigonometric functions with the help of a circle, Sign of Trigonometric functions in different quadrants, Trigonometric functions of specific angles, Trigonometric functions of negative angles, Fundamental identities, Domain and range of trigonometric functions, Periodicity of Trigonometric functions, Graphs of Trigonometric functions (sine , cosine, tangent, …), Polar Co-ordinate system.
3.	Trigonometry - II	Definition Compound angle, Theorem's (cos(A-B), cos(A+B), sin(A-B), sin(A+B), tan(A+B), tan(A-B)), Results (cot(A+B), cot(A-B)), Trigonometric functions of Allied angles, Trigonometric functions of Multiple angles (Double angle, Triple angle) , Factorization formulae (conversion of sum or difference into product, conversion of product into sum or difference), Trigonometric functions of angles of a triangle.
4.	Determinant and Matrices	Introduction, Value of Determinant of order 2, Determinant of order 3 definition, Expansion of Determinant of order 3 (6 ways), Minors and cofactors of elements of determinants, Expansion of Determinant by using Minors and cofactors of any row/column, Properties of determinant, Applications of Determinant (Cramer's Rule, Consistency of three equations in two variables, Area of triangle and collinearity of three

		points). Introduction to matrices, Definition , Types of matrices, Algebra of matrices (Equality of matrices, Multiplication of matrix by a scalar, Addition of matrices, Multiplication of two matrices), Properties of transpose of a matrix.
5.	Straight Line	Definition of locus, Equation of locus, Shift of origin, Straight Line : Inclination of line , Slope of a line, Perpendicular lines, Theorem : $m_1 m_2 = -1$, Angle between intersecting lines Theorem, Equation of line in standard forms (Point slope-form, Slope-intercept form, Two-points form, Double-intercept form, Normal form), General form of equation of line, Point of intersection of lines, The distance of the origin from a line, The distance of the point from a line, The distance between two parallel lines Theorem, Family of lines.
6.	Circle	Definition , Different forms of equation of a circle (Standard form, Centre-radius form, Diameter form, General equation of a circle, Parametric form of a circle, Tangent (The equation of tangent to a standard circle, Equation of tangent in parametric form, Condition of tangency, Tangents from a point to the circle) , Director Circle.
7.	Conic Sections	Double cone, Definition of conic section and its equation, Some useful terms of conic section, Parabola (Standard equation of the parabola, Tracing of the parabola, some results (Focal distance, Length of latus rectum), Some other standard forms of parabola, Parametric expressions of standard parabola, General forms of the equation of a parabola, Tangent at a point on a parabola, Condition of tangency, Tangents from a point to a parabola), Ellipse (Standard equation of ellipse, Some results , Special cases of an ellipse, Tangent to an ellipse, condition for tangency, Tangents from a point to the ellipse, Auxiliary circle, director circle of the ellipse), Hyperbola (Standard equation of the hyperbola, useful terms, Some results, Parametric equation of the hyperbola, Other standard form of hyperbola, Tangent to a hyperbola, Auxiliary circle, Diameter circle).

8.	Measures of Dispersion	Range, Variance, Standard deviation (For different data), Change of origin and scale, Standard deviation for combined data, Coefficient of variation.
9.	Probability	Basic terminologies (Random experiment , outcome, sample space, Event, Favourable outcome, Types of event, Algebra of Events, Equally likely outcome, Probability of an event, Properties of probability, Addition theorem for two events, Conditional Probability, Multiplication theorem, Independent events, Bayes' theorem, Odds (ratio of two complementary probabilities)
XI – MATHEMATICS – PART-2		
1.	Complex Numbers	Definition of complex number, Algebra of complex Numbers (Equality of two complex numbers, Conjugate of a complex number, Addition of complex numbers, Scalar multiplication Subtraction of two complex numbers, Multiplication of two complex numbers, powers of i, Division of complex numbers), Square root of a complex number, Solution of quadratic equation in complex number, Argand Diagram, Modulus of z, Argument of z, Properties of modulus, argument, Polar form of complex number, Exponential form, De Moivres Theorem, Cube root of unity and its properties.
2.	Sequence And Series	Definition and types of sequence, Arithmetic Progression, Geometric progression, sum of first n terms of a G.P., sum of infinite terms of G.P., Expressing recurring decimal as rational number, Harmonic progression, Types of means, Arithmetico geometric progression, Properties of summation, power series.
3.	Permutations And Combination	Fundamental principles of counting, Factorial notation and its properties, Permutations (when all objects are distinct, when repetitions are allowed, when some objects are identical, circular permutation, Properties of permutations), Combinations (Definition, Theorem : nCr , Properties of combination).
4.	Methods of Induction and	Principle of mathematical induction, Binomial theorem for positive integral index, General term and middle term of $(a+b)^n$, Binomial theorem for negative index or fraction, Binomial

	Binomial Theorem	coefficients.
5.	Sets and relations	Set (Definition, Representation of set, number of elements of set, Types of sets, Operations on sets, Intervals, maximum and minimum of sets), Relations (ordered pair, Cartesian product of two sets, Definition of relation, domain, codomain, range, Binary relation on a set, Identity relation, Types of relations, Congruence modulo).
6.	Functions	Definition of function, domain, codomain, Types of function, Representation of function, Graph of function, Value of function, Algebra of functions.
7.	Limits	Definition of limit of function, Algebra of limits, Theorem , method of factorization, method of rationalization, Limit of trigonometric function, Substitution method, Limits of exponential and logarithmic functions, Limit at infinity.
8.	Continuity	Continuity of a function at a point, Definition of continuity, Properties of continuous function, Types of discontinuities, continuity over an interval, The intermediate value theorem for continuous functions.
9.	Differentiation	Definition of derivative and differentiability, Derivative by method of first principle, Derivative of some standard functions, Relationship between differentiability and continuity, Rules of differentiation.

XII MATHEMATICS AND STATISTICS PAPER- I	
1. Mathematical Logic	Statement, Truth Value of statement, Logical connectives, Simple and Compound statement : Conjunction, Disjunction, Conditional, Bi-conditional and negation of a statement, Statement Pattern, Logical Equivalence, Tautology, Contradiction, Contingency, Quantifiers, Quantified Statements duals, Negation of Compound statement, Converse, Inverse and Contra positive Implication, Application of Logic to switching circuit
2. Matrices	Elementary transformation : A)Interchange of any two rows or any two columns B) Multiplication of the elements of any row or column by a non zero scalar C) Adding the scalar multiples of all the elements of any row(column) to corresponding elements of any other row(column), Inverse of a matrix: Uniqueness of Inverse of a matrix, Inverse of a non singular matrix by elementary transformation, Inverse of a square matrix by adjoint method, Application of matrices, Method of inversion, Method of reduction
3.Trigonometric functions	Trigonometric equations and their solutions, general solutions, solution of triangle:- polar co-ordinates , relation between Cartesian and the polar co-ordinates, solving a triangle, sine rule, cosine rule, projection rule, Application of sine rule, cosine rule, projection rule. 1)half angle formulae 2) Heron's formula.3) Napier's analogy, Inverse trigonometry function, Principal values of inverse trigonometric functions. Properties of inverse trigonometric functions.
4. Pair of straight line	Combine equation of a pair of lines(Theorem), Homogeneous equation of degree two, Angle between lines represented by$ax^2 + 2hxy + by^2 = 0$, General second degree equation in x and y.
5.Vector	Scalar quantity, vector quantity, representation of vector, magnitude of a vector, types of vector.1) zero vector2)unit vector3) co-initial and co-terminus vector4) equal vectors5) Negative of a vector 6) collinear vectors.7) Free vectors 8)

	Localized vector. Algebra of vectors:-1) scalar multiplications 2) Addition of two vectors.3) subtraction of two vectors.4) coplanar vectors. 5) vector in two dimensions, Vector in two dimensions (2-D), Three dimensions(3-D) co-ordinate system, component of vector, position vector of a point P(x,y,z) in space, component form of $\bar{r}$ vector joining two points, section formula, product of vectors, angle between two vectors, scalar product of two vectors, finding angle between two vectors, projections, direction angle and direction cosines , vector product of two vectors, scalar triple product and properties, vector triple product and properties.
6.Line and plane	Vector and Cartesian equation of line, equation of a line passing through a given point and parallel to given vector, equation of a line passing through given two points, Distance of a point from a line, skew lines, distance between skew lines, distance between parallel lines, equation of plane, equation of plane passing through a point perpendicular to a vector, Cartesian form, a vector equation of the plane passing through point A($\bar{a}$) and parallel to $\bar{b}$ and $\bar{c}$, the vector equation of plane passing through three non-collinear points, the normal form of equation of plane, angle between planes, angle between a line and a plane, co-planarity of two lines, distance of a point from a plane.
7. Linear Programming	Definition, convex set, Linear programming problem, meaning of Linear programming problem, meaning of L.P.P. Mathematical formulation of the L.P.P. Formal definitions related to L.P.P., Solution of L.P.P., Optimum feasible solution , corner-point method
XII MATHEMATICS AND STATISTICS PAPER- II	
1. Differentiation	Definition, Rules of Differentiation, Derivatives of Composite Functions (Theorem), Geometrical meaning of Derivatives, Derivatives of Inverse Functions(Theorem), Derivatives of Standard Inverse Trigonometric Functions, Logarithmic Differentiation, Implicit Functions, Derivatives of Parametric Functions(Theorem), Differentiation of one function with respect to another function, Higher Order Derivatives, Successive Differentiation (or n^{th} order derivatives)of some Standard Function

2. Applications of Derivatives	Application of Derivative in Geometry, Derivative as a Rate Measure, Velocity, Acceleration and Jerk approximations, Rolle's Theorem/Rolle's Lemma, Lagrange's Mean value Theorem(LMVT), Increasing and Decreasing Functions, Maxima and Minima, First Derivative Test, second Derivative Test
3. Indefinite Integration	Definition, Elementary Integration Formulae, Method of Integration, Integration by Substitution(theorem), Integrals of Trigonometric Functions, Some Special Integrals, Integrals of the form $\int \frac{px+q}{ax^2+bx+c}dx$and $\int \frac{px+q}{\sqrt{ax^2+bx+c}}\,dx$ and Integration by parts (Theorem), Integral of the type $\int e^x\,[f(x)+f'(x)]\,dx = e^x f(x)+c$ Integration by Partial Fraction
4. Definite Integration	Definite Integral as Limit of Sum, Fundamental Theorem and Properties of Integral Calculus,
5. Application of Definite Integral	Area under a curve, Area between two curves
6. Differential Equations	Definition, Order and Degree of Differential Equation, Formation of differential equation, Solution of differential equation, Homogeneous differential equation, Linear Differential Equation, Application of Differential Equation: Population growth and growth of bacteria, Radioactive decay, Half life period, Newton's Law of Cooling, Surface Area
7. Probability Distributions	Random Variables, Types of Random Variables: Discrete Random Variables, Continuous Random Variables, Probability Distribution of discrete Random Variable, Probability Mass Function(p.m.f), Cumulative Distribution Function(c.d.f.), Expected Value and variance of a Random Variable, Probability distribution of a continuous Random Variable, Probability Density Function, Cumulative Distribution Functions(c.d.f.)
8. Binomial Distribution	Bernoulli Trail, Binomial Distribution, Mean and Variance of Binomial Distribution(Formulae without proof)

XI – PHYSICS	
1. Units and Measurements	System of units , Measurement of length , Measurement of mass , Measurement of time , Dimensions and dimensional analysis , Accuracy , Precision , and uncertainty in measurement , Errors in measurements , Significant figures , order of magnitude .
2. Mathematical Methods	Vector analysis : - Scalers , Vectors , Vector operations (multiplication , addition , subtraction of vectors Triangle law for vector addition , Law of parallelogram of vectors), Resolution of vectors , Multiplication of vectors (scaler product , vector product) , Introduction of calculus .
3. Motion in Plane	Rectilinear motion (Displacement , path length , average velocity , average speed , instantaneous speed , acceleration , relative velocity), Motion in two dimensions – Motion in plane(average and instantaneous velocity , acceleration . Equation of motion for object travelling in plane with uniform acceleration .relative velocity , Projectile motion) . Uniform circular motion : period , radius vector , angular speed , centripetal acceleration , conical pendulum.
4.Law of Motion	Aristotle's Fallacy , Newton's laws of motion , Inertial and non-inertial frame of reference . Types of forces (fundamental forces in nature , contact and non-contact forces , real and pseudo forces , conservative and non-conservative forces , concept of potential energy , work done by variable force) . Work – Energy theorem . Principle of conservation of linear momentum .Collisions(elastic and inelastic collisions, coefficient of restitution) .

	Impulse of force. Rotational analogue of force – moment of force or torque, couple and its torque , mechanical equilibrium , centre of mass , centre of gravity .
5. Gravitation	Kepler's law , Universal law of gravitation , Measurement of gravitational constant , Acceleration due to gravity , Variation in ' g ' with altitude ,depth ,latitude and shape Gravitational potential and potential energy , Escape velocity , Earth Satellite , Projection of satellite , Critical velocity ,Weightlessness in satellite , Time period of satellite , Binding energy of an orbiting satellite .
6.Mechanical Properties of Solids	Elastic behavior of solids , Stress and strain , Hooke's law Elastic modulus , Stress – Strain curve , Strain energy , Hardness , Friction in solids (static friction , kinetic friction , rolling friction) .
7. Thermal Properties of Matter	Temperature and Heat , Measurement of temperature , Absolute temperature and Ideal gas equation , Thermal expansion (linear expansion , areal expansion , volume expansion , relation between coefficients of expansion , Specific heat capacity , Colorimetry , Change of state , Heat transfer (conduction , convection , radiation) , Newton' laws of cooling.
8.Sound	Waves-Types of waves, Common properties of all waves, Tranverse Waves and Longitudinal waves , Mathematical expression of waves , Speed of travelling waves , Newtons Formula for velocity of sound, Laplace's correction , Factors affecting speed of the sound , Principle of superposition of the waves , Echo, reverberation and acoustics ,Qualities of sound , Doppler effect .

9. Optics	Nature of light, Ray Optics , Cartesian Sign convention , Reflection (Reflection from Curved mirrors ,Spherical abbreviation) Refraction , Total internal reflection and its applications , Refraction at spherical surface and lenses (Refraction at single spherical surface, Lens maker's equation), Dispersion of light and prism (Prism formula , deviation of light through thin prism , angular dispersion , dispersive power), Natural phenomena due to sunlight , Defects of lenses (Chromatic abbreviation , Spherical abbreviation), Optical instruments – Magnifying power of simple microscope , compound microscope , telescope .
10. Electrostatics	Electric charges , basic properties of the electric charges , Coulomb's law , Principle of superposition , Electric field , Electric lines of force , Electric flux , Gauss Law , Electric dipole (Couple acting on the electric dipole in the uniform electric field , Electric intensity at a point due to electric dipole) , Continuous charge distribution .
11. Electric Current through conductors	Electric current , Flow of the current through the conductor , Drift Speed , Ohm's Law , Electrical energy and power , Registers Rheostat , Combination of the registers , Specific Resistance (Resistivity), Variation of the resistance with the temperature , Electromotive force , Cell's in series , Cell's in parallel , Types of cells .
12. Magnetism	Magnetic lines of force and magnetic field , Bar magnet(Magnetic field due to bar magnet at a point along its axis and along it's equator , Magnetic field due to bar magnet at an arbitrary point), Gauss law of magnetism , Earth's magnetism.

13.Electromagnetic waves and Communication system	EM wave , Characteristics of EM waves , Electromagnetic spectrum – Properties and uses of Radio waves , Microwaves , Infrared waves , Visible Light , Ultraviolet rays , X-rays , Gamma Rays . Propagation of EM Waves – Ground wave propagation , Space wave propagation , Sky wave propagation . Introduction to communication system , Modulation .
14.Semiconductors	Electrical conduction in solids , Band theory of solids – Brief introduction , Intrinsic Semiconductor , Extrinsic semiconductor , P-N junction ,P-N junction diode .Semiconductor devices , Application of semiconductors and P-N junction diode .
15. Magnetic Field due to Electric Current	Magnetic force , Cyclotron motion , Cyclotron accelerator, Helical motion , Magnetic force on wire carrying current – 1) Straight wire 2) Arbitrarily shaped wire. Force on a closed circuit in a magnetic field , Torque on current loop , Moving coil galvanometer , Magnetic dipole moment , Magnetic potential energy of dipole , Magnetic field due to current (Biot – Savart law), Force of attraction between two long parallel wires , Magnetic field produced by current in circular arc of wire, Axial magnetic field produced by current in circular loop , Magnetic lines for current loop , Ampere's Law , Magnetic field of Solenoid and Toroid .
16. Magnetic Materials	Torque acting on a magnetic dipole in uniform magnetic field , Location of magnetic poles of current carrying loop, Origin of magnetism in materials , Magnetization and Magnetic intensity , Magnetic properties of materials, Hysteresis , Permanent magnet and electromagnet , Magnetic shielding .
17.Electromagnetic Induction	Faraday's experiment in connection with generation of electric current , Faraday's laws of electromagnetic induction , Lenz's law and its applications , Flux of

	field , Motional electromotive force , Induced emf in stationary coil in a changing magnetic field , Generators , Back emf and back torque , Induction and energy transfer , Eddy currents , Self- inductance , Energy stored in magnetic field , Energy density of magnetic field , Mutual inductance , Transformer .
18 AC Circuits	AC generator, Average and RMS values, Phasors, Different types of AC circuits: - AC voltage applied to resistor, AC voltage applied to an inductor, AC voltage applied to capacitor, AC circuit containing resistance, inductance, capacitance in series (LCR circuit), Power in AC circuit, LC oscillations, Electric resonance, Q- Factor, Choke coil.
19. Dual Nature of Radiation and Matter	Photoelectric effect, (Experiment and its observations), Failure of wave theory to explain observations from experiments on photoelectric effect, Einstein's postulate of quantization of energy and photoelectric equation, Wave-particle Duality of electromagnetic radiation, Photo Cell, De Broglie Hypothesis, Davisson an Germer experiment, Wave-particle Duality of matter.
20.Structure of Atoms and Nuclie	Geiger – Marsden experiment , Rutherford's atomic model , Atomic spectra , Bohr's atomic model , Expressions for radius of orbit , energy of electron ,Bohr formula , De Broglie's explaination , Atomic nuceus , nuclear forces , Nuclear binding energy , Radioactive decays , Law of radioactive decay , Half life of radioactive material , Average life of radioactive species , Nuclear energy (Nuclear fission , Nuclear fusion).
21. Semiconductor Devices	P-N junction diode as a rectifier , Filter circuits , Special purpose junction diodes : - Zener diode , Photo diode , Solar cell , Light emitting diode (LED), Bipolar junction transistor , Transistor configuration , Transistor as an amplifier , Logic gates .

XII - PHYSICS

1. Rotational Dynamics	Circular motion: Kinematics of circular motion ,Dynamics of circular motion (Centripetal force ,Centrifugal force) Applications of UCM: Vehicle along horizontal circular track, Vehicle on banked road, Conical pendulum : Period of revolution of bob , Frequency of revolution. Vertical circular motion. Moment of inertia : M.I. as an analogous quantity for mass ,Rotational K.E. , angular momentum , torque in terms of M.I. , M.I. of ring , disc , solid sphere , thin uniform rod , circular cone , uniform plate , uniform spherical shell , radius of gyration , Theorem of parallel axes and perpendicular axes , conservation of angular momentum , Rolling motion : Linear acceleration and speed while pure rolling down an inclined plane.
2. Mechanical Properties Of Fluids	Fluid – Properties of fluid , Pressure : Pressure due to liquid column , Absolute pressure and Gauge pressure , Hydrostatic paradox , Pascal's Law , Applications of Pascal's Law , Measurement of pressure (mercury barometer , open tube manometer). Surface Tension , Surface energy , Relation between S.T. and surface energy , Angle of contact , Effect of impurity and temperature on S.T. Excess pressure across free surface of liquid , Formation of drop and bubble. Capillary action Expression for capillary rise . Fluids in motion , Critical velocity and Reynold number , viscosity , Stokes' law , Equation of continuity , Bernoulli equation and its applications.
3. Kinetic Theory Of Gases And	Behaviour of gas , Ideal gas and real gas , Mean free path , Pressure of ideal gas , Interpretation of

Radiation	temperature in kinetic theory , Law of equipartition of energy , Degrees of freedom , Specific heat capacity (Mayer's relation) , Absorption , reflection , and transmission of heat radiation ,Perfect black body (Ferry's black body). Emission of heat radiation . Kirchhoff's law of heat radiation and its theoretical proof. Spectral distribution of black body radiation. Wien's displacement law , Stefan-Boltzmann law of radiation.
4.Thermodynamics	Thermal equilibrium , Zeroth law of thermodynamics , Heat , Internal Energy , Work . First law of thermodynamics (work and heat related), Thermodynamic state variables , Thermodynamic process , Classification of thermodynamic processes (Reversible and Irreversible process) , Assumptions of thermodynamic process. Thermodynamics of isothermal process , Isobaric process , Isochoric process , Adiabatic process, Cyclic process , Free expansion. Heat Engine , Heat engine cycle and P- V diagram , Refrigerators and heat pumps . Second law of thermodynamics , Carnot cycle and Carnot engine , Carnot refrigerator , Second law of thermodynamics and Carnot cycle , Sterling cycle .
5. Oscillations	Periodic motion , Linear S.H.M. , Differential equation of S.H.M. , Acceleration , velocity and displacement of S.H.M. and their expressions , Amplitude , period and frequency of S.H.M., Reference circle method , Phase in S.H.M., Graphical representation of S.H.M. , Composition of two S.H.M. s having same period and along the same path , Energy of particle performing S.H.M., Simple pendulum , Second's pendulum , Angular S.H.M. and its differential equation , Magnet vibrating in uniform magnetic field , Damped

	oscillations , Free oscillations , Forced oscillations and resonance .
6. Superposition of waves	Progressive wave , Reflection of waves , Superposition of waves , Stationary waves , Properties of stationary waves , Free and Forced vibrations , Harmonics and Overtones :- Vibrations of air column in pipe closed at one end and in pipe open at both ends , Vibrations produced in string , Laws of vibrating string , Sonometer(verification of first , second and third law of vibrating string) , Beats (analytical method to determine beat frequency) , Applications of beats , Characteristics of sound (loudness , pitch , quality or timbre) , Musical instruments.
7. Wave Optics	Nature of light:- Corpuscular nature , wave nature , dual nature of light . Huygens' wave theory , Huygens' principle , Reflection of light at plane surface , Refraction of light at plane boundary between two media , Dependence of wavelength on refractive index of medium , Polarization , Brewster's Law(polarization by reflection) , polarization by scattering , Interference : Young's double slit experiment , Conditions for steady interference , Method for obtaining coherent sources Optical path , Diffraction of light : Fresnel and Fraunhofer diffraction , Fraunhofer diffraction at a single slit , Double slit diffraction pattern , Resolving power – Rayleigh's Criterion for resolving power , Resolving power of microscope , Resolving power of telescope.
8.Electrostatics	Applications of Gauss' Law , Electric potential and potential energy , Electric potential due to point charge , electric dipole and system of charges , Equipotential surfaces , Electrical energy of two point

	charges and of a dipole in an electrostatic field , Conductors and insulators , free charges and bound charges inside a conductor , Dielectrics and electric polarization. Capacitors and capacitance , Combination of capacitors in series and parallel , Capacitance of parallel plate capacitor with and without dielectric medium between the plates .Displacement current , Energy stored in capacitor , Van de Graaff Generator .
9. Current Electricity	Kirchhoff's Laws of Electrical Network , Wheatstone Bridge , Application of Wheatstone bridge :- Metre bridge , Kelvin's method , Post office box . Potentiometer:- Use of potentiometer (Compare emf of cells , To find internal resistance of cell), Application of potentiometer(Voltage divider , Audio control, potentiometer as a sensor) , Advantages of potentiometer over voltmeter , Galvanometer :- Galvanometer as an ammeter , Galvanometer as a voltmeter .
10. Magnetic Field due to Electric Current	Magnetic force , Cyclotron motion , Cyclotron accelerator, Helical motion , Magnetic force on wire carrying current – 1) Straight wire 2) Arbitrarily shaped wire. Force on a closed circuit in a magnetic field , Torque on current loop , Moving coil galvanometer , Magnetic dipole moment , Magnetic potential energy of dipole , Magnetic field due to current (Biot – Savart law), Force of attraction between two long parallel wires , Magnetic field produced by current in circular arc of wire, Axial magnetic field produced by current in circular loop , Magnetic lines for current loop , Ampere's Law , Magnetic field of Solenoid and Toroid .

11. Magnetic Materials	Torque acting on a magnetic dipole in uniform magnetic field , Location of magnetic poles of current carrying loop, Origin of magnetism in materials , Magnetization and Magnetic intensity , Magnetic properties of materials, Hysteresis , Permanent magnet and electromagnet , Magnetic shielding .
12.Electromagnetic Induction	Faraday's experiment in connection with generation of electric current , Faraday's laws of electromagnetic induction , Lenz's law and its applications , Flux of field , Motional electromotive force , Induced emf in stationary coil in a changing magnetic field , Generators , Back emf and back torque , Induction and energy transfer , Eddy currents , Self- inductance , Energy stored in magnetic field , Energy density of magnetic field , Mutual inductance , Transformer .
13 AC Circuits	AC generator, Average and RMS values, Phasors, Different types of AC circuits: - AC voltage applied to resistor, AC voltage applied to an inductor, AC voltage applied to capacitor, AC circuit containing resistance, inductance, capacitance in series (LCR circuit), Power in AC circuit, LC oscillations, Electric resonance, Q- Factor, Choke coil.
14. Dual Nature of Radiation and Matter	Photoelectric effect, (Experiment and its observations), Failure of wave theory to explain observations from experiments on photoelectric effect, Einstein's postulate of quantization of energy and photoelectric equation, Wave-particle Duality of electromagnetic radiation, Photo Cell, De Broglie Hypothesis, Davisson an Germer experiment, Wave-particle Duality of matter.
15.Structure of	Geiger – Marsden experiment , Rutherford's atomic model , Atomic spectra , Bohr's atomic model ,

Atoms and Nuclie	Expressions for radius of orbit , energy of electron ,Bohr formula , De Broglie's explaination , Atomic nuceus , nuclear forces , Nuclear binding energy , Radioactive decays , Law of radioactive decay , Half life of radioactive material , Average life of radioactive species , Nuclear energy (Nuclear fission , Nuclear fusion).
16. Semiconductor Devices	P-N junction diode as a rectifier , Filter circuits , Special purpose junction diodes : - Zener diode , Photo diode , Solar cell , Light emitting diode (LED), Bipolar junction transistor , Transistor configuration , Transistor as an amplifier , Logic gates .

XI CHEMISTRY

1. Some basic Concepts of chemistry	Nature of chemistry,Properties of matter and their measurement ,laws of chemical combination ,Dalton's Atomic Theory,Atomic and molecular masses, mole concept and molar mass
2. Introduction to analytical chemistry	Importance of analytical chemistry, analysis, mathematical operation and error analysis,determination molecular formula, chemical reactions and stoichiometric calculations, limiting reagent, concentration of solution ,use of graph in analysis
3. Basic Analytical Techniques	Purification of solids, Distillation , solvent extraction , chromatographic techniques,
4. Structure of Atom	Subatomic particles, Atomic number ,atomic mass number, Isotopes, Isobars, Isotones, Drawbacks of Rutherford atomic model, Developments leading to Bhor's atomic model, Bhor's model for hydrogen atom, Quantum mechanical model of atom,
5. Chemical Bonding	Kossel and Lewis approach to chemical bonding, Steps to write Lewis dot structures, Formal charge, Valence shell electron pair repulsion theory, Valence bond theory,Hybridization, Molecular orbital theory, Parameters of covalent bond, Dipole moment, resonance
6. Redox Reactions	Classical ideas of redox reactions, Oxidation number, Balancing of redox reactions, Redox reaction and Electrode potential,
7. Modern Periodic Table	Introduction, Structure of modern periodic table, Periodic table and electronic configuration, Blockwise characteristics of elements, Periodic trends in elemental

	properties
8. Element of Group 1 and Group 2	Hydrogen:Occurrence, Position, Isotopes of Hydrogen, Prepration, Properties, Uses. Alkali metals and element of group 2, Some important compounds of element of S Blocks
9. Elements of groups 13,14,15	Introduction, Electronic configuration of elements of groups 13,14,15, Chemical properties of elements of groups 13,14,15, Catenation, Allotropy, Molecular structure of some important compounds of groups 13,14,15 elements, Chemistry of notable compounds of elements of group 13,14,15
10. States of Matter: Gaseous and Liquid States	Introduction, Intermolecular forces, Characteristic properties of gases, Gas Laws, Ideal gas equations, Kinetic molecular theory of gases, Deviation from ideal behavior, Liquefaction of gases and critical constant, Liquid state
11. Adsorption and Colloids	Adsorption, Types of adsorption, Factors affecting adsorption of gases on solids, Adsorption isotherm, Applications of adsorption, Catalysis, Adsorption theory of heterogeneous catalysis, Colloids
12. Chemical Equilibrium	Reversible reactions, Equilibrium in physical processes, Equilibrium in chemical process, Law of mass action and equilibrium constant, Homogeneous and Heterogeneous eqilibria, Characteristics of equilibrium constant, Application of equilibrium constant, Le Chatelier's Principle, Industrial application
13. Nuclear chemistry and Radioactivity	Similarity between solar system and structure of atom, Classification of nuclides, Nuclear stability, Radioactivity, Radioactive decay, Modes of decay, Nuclear reactios, Applications of radio isotopes

14. Basic principles of Organic Chemistry	Structural representation of organic molecules, Classification of organic compounds, Nomenclature of organic compounds, Isomerism, Therotical basis of organic reactions
15. Hydrocarbons	Alkanes: Isomerism, Conformation, preparation, Physical properties, chemical properties, uses. Alkene:Isomerism, preparation, physical properties, chemical properties, uses. Alkynes: Isomerism, preparation, physical properties, chemical properties, uses. Aromatic Hydrocarbons(Benzene):Structure, Preperation, physical properties, chemical properties. Huckel Rule, Directive influence of a functional groups in monosubstituted benzene, Carcinogenicity and Toxicity
16. Chemistry in Everyday Life	Basics of food chemistry, Compounds with Medicinal properties, Cleansing agents.

XII CHEMISTRY

1. Solid State	Types of solids, Classification of crystalline solids, Crystal structure, Cubic system, Packing of particles in crystal lattice, Packing efficiency, Crystal defects, Electrical properties of solids, Magnetic properties of solids
2. Solutions	Types of solutions, Capacity of solution to dissolve solute, Solubility, Vapour pressure of solutions of liquids in liquids, Colligative properties of non electrolyte solutions, Vapour pressure lowering, Boiling point elevation, Depression in freezing point, Osmotic pressure, Colligative properties of electrolytes
3. Ionic Equilibria	Types of electrolyte, Acids and Bases, Ionisation of acids and bases, Autoionisation of water, pH scale, Hydrolysis

	of salts, Buffer solutions, Solubility product, Common ion effect
4. Chemical Thermodynamics	Introduction, Terms used in Thermodynamics, Nature of heat and work, Expression for pressure-volume work, Concept of maximum work, Internal energy, First law of Thermodynamics, Enthalpy, Enthalpies of physical transformations, Thermochemistry, Spontaneous prosess.
5. Electrochemisry	Introduction, Electric conduction, Electrical conductance of solutions, Electrochemical cells, Electrolytic cell, Galvanic cell, Electrode potential and cell potential, Thermodynamics of galvanic cell, Galvanic cells useful in day to day life, Fuel cell, Electrochemical series.
6.Chemical kinetics	Rate of reactions, Rate of reaction and reactant concentration, Molecularity of elementary reactions, Integrated Rate law, Collision theory of bimolecular reactions, Temperature dependence of reaction rates, Effects of catalyst on rate of reaction.
7.Elements of groups 16,17,18	Occurrence, Electronic configuration, Atomic and physical properties, Anomalous behavior of oxygen and fluorine, Chemical properties, Oxoacids, Oxygen and compounds of oxygen, Compound of sulphur, Chlorine and compounds of chlorine, Interhalogen compounds, Compounds of Xenon.
8.Transition and Innertransition Elements	General introduction, Position in periodic table, Electronic configuration, Trends in atomic properties of first transition series, Compounds of Mn and Cr($KMnO_4$ and $K_2Cr_2O_7$), Common properties of d block elements, Metallurgy, Properties of f block elements
9.Cordination compounds	Introduction, Types of ligands, Terms used in coordination chemistry, classification of complexes,

	IUPAC nomenclature of coordination compounds, Effective atomic number rule, Isomerism in coordination compounds, Stability of coordination compounds, Theories of bonding in complexes, Application of coordination compounds.
10.Halogen derivatives	Classification of halogen derivatives, Nomenclature, Methods of preparation of alkyl halides, Physical properties, Optical isomerism in halogen derivatives, Chemical properties, Uses and environmental effects of some polyhalogen compounds.
11.Alcohols, Phenols and Ethers	Classification, Nomenclature, Methods of preparation, Physical properties, Chemical properties, Uses
12.Aldehydes, Ketones, Carboxylic Acids	Classification, Nomenclature, Methods of preparation, Physical properties, Chemical properties
13.Amines	Classification, Nomenclature, Methods of preparation, Physical properties, Chemical properties
14.Biomolecules	Carbohydrates: Classifications, Nomenclature of monosaccharides, Preperation of Glucose, Structure and properties of Glucose. Proteins: alpha amino acids, Types of proteins, Structure of proteins, Denaturation of Proteins. Enzymes:Mechanism of enzyme catalysis. Nucleic acids.
15.Introduction to Polymer Chemistry	Classification of polymers, Some important polymer, Molecular mass and degree of polymerization of polymer, Biodegeradable Polymers, Commercially important polymers.
16.Green Chemistry and	Introduction, Sustainable development, Principle of green chemistry, Roll of Green chemistry, Introduction to

Nanochemistry	nanochemistry, Characteristic features of nanoparticles, synthesis of nanomaterial, History of nanotechnology, Application of nanomaterials, Nanoparticles and nanotechnology.

XI BIOLOGY

1. Living World	Basic Principles of Life, Herbarium, Botanical Gardens, Museum, Zoological Parks, Biodiversity Parks, Key
2. Systematics of Living Organisms	Classification, Three domains of life, Chemotaxonomy, Numerical Taxonomy, Cladogram, Phylogeny, DNA Bar coding, Taxonomic Categories, Taxonomic Hierarchy, Units of Classification, Nomenclature, Salient Features of Five Kingdoms, Acellular Organisms (Viruses, Viroids, Lichens)
3. Kingdom Plantae	Kingdom Plantae Classification, Salient features of major plant groups under Cryptogams and Phanerogams, Plant life cycle and Alternation of generations
4. Kingdom Animalia	Criterion used for animal classification, Animal body plan, Animal Classification and Phylums
5. Cell structure and organization	Cell, Kinds of Cells, Procaryotic cells, Eucaryotic cell and its components
6. Biomolecules	Carbohydrates, Lipids, Proteins, Nucleic acids and their significance, Enzymes and their properties, Nomenclature, Mechanism of Enzyme action. Concept of metabolism
7. Cell Division	Cell Cycle, Types of Cell Division-Amitosis, Mitosis, Meiosis and their significance
8. Plant Tissue and Anatomy	Tissue, Meristematic tissue, Simple and Permanent Tissues, Tissue Systems, Secondary growth in plants, Wood, Cork cambium and secondary growth, Anatomy of Dicot and Monocot, root stem and leaf

9. Morphology of Flowering Plants	Classification of Flowering plants, Root, Stem, Leaf their structure and modifications, Inflorescence, Structure of Flower, Placentation, Fruit and Seed. Study of some important families : Fabaceae and Solanaceae
10. Animal Tissues	Histology and Types : Epithelial, Connective, Muscular and Nervous Tissue
11. Study of Animal Type- Cockroach	Habit and habitat, Systematic Position, External morphology, Body Cavity, Digestive System of cockroach, Circulatory or Blood vascular system, Respiratory System, Nervous System, Reproductive system, Interactions with mankind
12. Photosynthesis	Meaning, Chloroplasts, Nature of Light, Mechanism of Photosynthesis, Light Reaction, Photophosphorylation, Dark reaction, Photorespiration, C_4Pathway, Crassulacean Acid Metablism, Factors affecting Photosynthesis, Significance
13. Respiration and Energy Transfer	Formation of ATP, Anaerobic respiration, Glycolysis, Aerobic respiration, Krebs Cycle, ETS, Significance
14. Human Nutrition	Meaning, Human Digestive System, Digestive glands, Physiology of Digestion, Absorption assimilation and egestion, Nutritional disorders and disorders of digestive system
15. Excretion and Osmoregulation	Excretion and excretory products, Two Major types of Nephridia, Excretory system in Human being, Physiology of Urine formation, Composition of Urine, Role of skin in excretion, Disorders and Diseases, Dialysis
16. Skeleton and Movements	Movements and Locomotion, Location ,structure and working of Skeletal muscles, Structure of myosin and

	actin filaments, mechanism of muscle contraction, Physiology of muscle relaxation, Properties of muscles on electrical stimulation, Skeletal System, Group of Skeleton : Axial and Appendicular Skeleton, Types of Joints, Disorders related to muscles and bones

XII BIOLOGY

1. Reproduction in Lower and Higher Plants	Asexual Reproduction, Sexual Reproduction, Microsporogenesis, Structure of Ovule, Megasporogenesis, Polynation, Outbreeding devices, Double Fertilization, Post fertilization changes, ApomixisParthenocarpy
2. Reproduction in Lower and Higher Animals	Asexual Reproduction, Sexual Reproduction, Human Reproductive Systems, Puberty, Menstrual Cycle, Gametogenesis: Spermatogenesis, Oogenesis, Fertilization, Embryonic Development, Placenta, Parturition, Lactation, Birth Control Methods, Amniocentesis, Sexually Transmitted Diseases (STD), Infertility and Treatment, Adoption
3. Inheritance and Variation	Chromosomes and Mechanism of Inheritance, Genetic Terminology, Mendel's Laws of Inheritance, Back Cross and Test Cross, Deviations, Chromosomal Theory of Inheritance, Chromosomes, Linkage and Crossing over, Autosomal Inheritance, Sex Link Inheritance and Diseases, Sex determination, Genetic Disorders
4. Molecular Basis of Inheritance	The Discovery of DNA, The Genetic Material is a DNA, DNA Packaging, DNA Replication, Protein Synthesis, Genetic Code, Regulation of Gene Expression, Operon Concept, Genomics, Human Genome Project, DNA Fingerprinting

5. Origin and Evolution of Life	Protobiogenesis, Chemical Evolution of Life, Organic Evolution, Darwinism, Mutation Theory, Modern Synthetic Theory of Evolution, Mechanism of Organic Evolution, Hardy-Weinberg's Principle, Adaptive Radiation, Evidences of Organic Evolution, Speciation, Geological Time Scale, Human Evolution
6. Plant Water Relation	Properties of Water, Water absorbing Organ, Availability and absorption of water by roots from soil, Water Potential(ψ), Plasmolysis, Path of water across the root, Mechanism of absorption of water, Ascent of Sap, Transport of mineral ions, Transport of food, Transpiration, Structure of Stomatal apparatus, Significance of Transpiration
7. Plant Growth and Mineral Nutrition	Meaning, Phases of Growth, Conditions for Growth, Growth Rate and Types of Growth, Growth Curve, Differentiation, De-Differentiation, Re-Differentiation, Development, Plasticity, Growth Hormones: Physiological Effects and Applications, Photoperiodism, Vernalization, Mineral Nutrition : Classification and Role of Mineral Elements in Plants, Nitrogen Cycle
8. Respiration and Circulation	Meaning, Organs of Respiratory exchange in plants and animals, Human Respiratory System, Mechanism of Respiration, Regulation of Breathing, Common disorders of Respiratory system, Transportation in Living Organisms, Circulation in animals, Human Circulatory system : Blood and its components, Heart: External and Internal Structure, Conducting system of Heart, Mechanism of working of human heart, Blood Vessels, Blood Pressure, Heart Diseases, ECG, Lymphatic system
9. Control and Co-ordination	Nervous Co-ordination : Nervous system in *Hydra*, *Planaria.* Neural Tissue, Synapse, Transmission of nerve

	impulse. Human Nervous System: Central Nervous System (CNS), Peripheral Nervous System(PNS), Autonomous Nervous System(ANS). Sensory Receptors, Eye, Ear, Disorders of Nervous System, Chemical Co-ordination, Endocrine System: Hormones, Properties, Mechanism of Hormone Action. Major Endocrine Glands, Hormones, Mode of Action, Disorders
10. Human Health and Diseases	Immunity and its types, Cells of Immune System, Vaccination, Structure of Antibody, Formation of antigen-antibody complex, ABO blood groups and Rh factor, Common Human Diseases: Mode of Transmission, Symptoms, Diagnosis and Treatment, Prevention and Control, Adolescence, Mental Health and Adolescence, Addiction, Drug Abuse, Effects of Drugs, Prevention and Control
11. Enhancement of Food Production	Improvement in Food Production, Plant Breeding, Tissue Culture, Single Cell Protein (SCP), Biofortification, Animal Husbandry: Management of Farm and Farm Animals, Dairy Farm Management, Poultry Farm Management, Apiculture or Bee Keeping, Fishery, Lac Culture. Microbes in Human Welfare: Microbes in Food Production, Role of Microbes in Industrial Production, Microbes in Sewage Treatment, Microbes in Energy Generation, Role of microbes as biocontrol agents and biofertilizers
12. Biotechnology	Meaning, Principles and Processes of Biotechnology: Technique of Gene Cloning and rDNA Technology, Methodology for rDNA Technology, Applications of Biotechnology: Healthcare, Agriculture, Gene Therapy, Genetically Modified Organisms(GMOs), Advantages of GM food-plants. Bioethics :Effects of Biotechnology on Environment and Human Health.Bio-piracy and Bio-

	patent
13. Organisms and Populations	Organisms and the environment around, Major abiotic factors, Adaptation, Population, Population Interactions,
14. Ecosystems and Energy Flow	Ecosystems : Structure and Function. Energy Flow, Ecological Pyramids, Nutrient Cycles: Carbon and Phosphorous Cycle. Ecological Succession
15. Biodiversity, Conservation and Environmental Issues	Definition of Biodiversity, Levels of Biodiversity, Biodiversity current scenario, Loss of Biodiversity, Causes of Biodiversity Losses, IUCN System and Categories, Conservation of Biodiversity, Biological Diversity Act 2002, Environmental Issues: Air, Noise, Water Pollution, Its Causes, Effects and Control Measures, Green House Effect and Global Warming, Ozone Depletion, Deforestation, Conservation of Forests, Mission Harit Maharashtra