

COURSE STRUCTURE AND DETAILED SYLLABUS

I - B.PHARMACY - I & II - SEMESTERS

B.PHARMACY

**FOR
B.PHARMACY FOUR YEAR DEGREE COURSE
[Choice Based Credit System (CBCS)]
R15 Regulations
(Applicable for the batches admitted from 2015-2016 Onwards)**



**ANURAG GROUP OF INSTITUTIONS
AUTONOMOUS
VENKATAPUR, GHATKESAR, HYDERABAD – 500 088, TELANGANA STATE.**

Definitions of Key Words:

Academic Year: Two consecutive (one odd + one even) semesters constitute one academic year.

Choice Based Credit System (CBCS): The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).

Course: Usually referred to, as 'papers' is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures/tutorials/laboratory work/ field work/ outreach activities/ project work/ vocational training/viva/ seminars/ term papers/assignments/ presentations/ self-study etc. or a combination of some of these.

Credit Based Semester System (CBSS): Under the CBSS, the requirement for awarding a degree or diploma or certificate is prescribed in terms of number of credits to be completed by the students.

Credit Point: It is the product of grade point and number of credits for a course.

Credit: A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week.

Cumulative Grade Point Average (CGPA): It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.

Grade Point: It is a numerical weight allotted to each letter grade on a 10-point scale.

Letter Grade: It is an index of the performance of students in a said course.

Grades are denoted by letters O, A+, A, B+, B, C, P and F.

Programme: An educational programme leading to award of a Degree, diploma or certificate.

Semester Grade Point Average (SGPA): It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

Semester: Each semester will consist of 15-18 weeks of academic work equivalent to 90 actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June.

Transcript or Grade Card or Certificate: Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester.

ACADEMIC REGULATIONS FOR B. PHARM. (REGULAR)

Applicable for the students of B. Pharm. (Regular) from the Academic Year 2015-16 onwards

1. Title and Duration of the Course

- 1.1 The course shall be called the degree course in Bachelor of Pharmacy, abbreviated as B.Pharm.
- 1.2 The course shall be of four academic years duration divided into eight semesters, each semester having duration of minimum 16 weeks of instruction.
- 1.3 The calendar of events in respect of the course shall be fixed by the Institute from time to time.
- 1.4 The external examination in all the subjects shall be conducted at the end of each semester for all the eight semesters.
- 1.5 Students joining the B.Pharm. Programme shall have to complete the programme within a stipulated time frame of 8 years from the year of joining and Students joining the B.Pharm. Programme in the third semester directly through Lateral Entry Scheme (LES) shall have to complete the programme within a stipulated time frame of 6 years from the year of joining otherwise they shall forfeit their seat in B.Pharm Programme and their admission shall stand cancelled.

2. Admission Procedure

- 2.1 Admissions will be done as per the norms prescribed by the Government of Telangana State.
- 2.2 The Government orders in vogue shall prevail.
- 2.3 The candidate should have passed the prescribed qualifying examination on the date of admission.

3. Award of B. Pharm Degree

A student will be declared eligible for the award of B. Pharm. Degree if he fulfills the following academic requirements:

- 3.1 The candidate shall pursue a course of study for not less than four academic years and not more than eight academic years.
- 3.2 The candidate shall register for 192 credits and secure all the 192 credits by securing a minimum CGPA of 5.0.
- 3.3 The students, who fail to fulfill the academic requirements for the award of the degree within eight academic years from the year of admission, shall forfeit their seats in B.Pharm. Course.

4. Credits

	Semester	
	Contact Periods / week	Credits
Theory	04	04
	03	03
	02	02
Practical	03	02
Comprehensive Viva Voce	--	02
Seminar	--	02
Project	--	02

***Note on Tutorials:- No Credits for < 2 periods /week**

5. Distribution and Weightage of Marks

5.1 The performance of a student in a semester shall be evaluated subject-wise for a maximum of 100 marks each for a theory and practical subject. In addition, seminar, Comprehensive Viva-Voce and project work shall be evaluated for 100, 100 and 200 marks, respectively.

5.2 For theory subjects the distribution shall be 25 marks for Continuous Internal Evaluation (CIE) and 75 marks for the Semester End- Examination (SEE).

5.3 For theory subjects, during the semester there shall be 2 midterm examinations. Each mid term examination consists of Part-A (Short Answers) for 5 marks and Part-B (Long Answers) for 15 marks with duration of 90 Minutes and an assignment carrying 5 marks.

Part-B shall contain 5 questions of which student has to answer 3 questions each 5 marks. First mid term examination shall be conducted for 2.5 units of syllabus and second mid term examination shall be conducted for remaining 2.5 units. First Assignment should be submitted before the conduct of the first mid, and the second Assignment should be submitted before the conduct of the second mid.

The total marks secured by the student in each mid term examination for 25 marks is considered and the average of the two mid term examinations shall be taken as the final marks secured by each candidate. If he/she is absent for any test / assignment, he/she is awarded zero marks for that test / assignment.

5.4 The Semester End Examination will be conducted for 75 marks which consist of two parts viz. i). Part-A for 25 marks, ii). Part –B for 50 marks.

5.5 Part-A is compulsory, which consists of ten questions (numbered from 1 to 10) two from each unit carrying 2/3 marks each.

5.6 Part-B consists of five questions (numbered from 11 to 15) carrying 10 marks each. Each of these questions is from one unit and may contain sub-questions. For each question there will be an “either” “or” choice (that means there will be two questions from each unit and the student should answer any one question)

- 5.7 For practical subjects there shall be a continuous evaluation during a semester for 25 sessional marks. Out of the 25 marks for internal evaluation, day-to-day work in the laboratory shall be evaluated for 15 marks and internal practical examination shall be evaluated for 10 marks conducted by the laboratory teacher concerned. Semester end examinations carry 75 marks.
- 5.8 The practical end semester examination shall be conducted with an external examiner and the laboratory teacher. The external examiner shall be appointed by the Principal from the panel of examiners recommended by Chairman, Board of Studies in respective Branches.
- 5.9 The candidates have to undergo Industrial Training for one month (200 Hours Minimum) during the vacation after III year II Semester examination. The industrial Training certificate should be submitted to the Head of the Department. There shall be no marks for industrial Training.
- 5.10 There shall be a seminar presentation in IV year I Semester. For the seminar, the student shall collect the information on a specialized topic and prepare a technical report, showing his understanding of the topic, and submit it to the department. It shall be evaluated by the departmental committee consisting of Head of the Department, Seminar Supervisor and a Senior Faculty member. The seminar report shall be evaluated for 100 marks. There shall be no external examination for the seminar.
- 5.11 There shall be a Comprehensive Viva-Voce in IV year II 'semester. The Comprehensive Viva-Voce will be conducted by a Committee consisting of Head of the Department and two Senior Faculty members of the Department. The Comprehensive Viva-Voce is intended to assess the students understanding of the subjects he studied during the B. Pharm. course of study. The Comprehensive Viva-Voce is evaluated for 100 marks by the departmental Committee. There are no external marks for the Comprehensive Viva-Voce.
- 5.12 Out of a total of 200 marks for the project work, 50 marks shall be for Internal Evaluation and 150 marks for the End Semester Examination. The End Semester Examination (viva-voce) shall be conducted by the committee. The committee consists of an external examiner, head of the department, the supervisor of project and a senior faculty member of the department. The topics for industry oriented mini project, seminar and project work shall be different from each other. The evaluation of project work shall be conducted at the end of the IV year II Semester. The internal evaluation shall be on the basis of two seminars given by each student on the topic of his project.
- 5.13 The Laboratory marks and the sessional marks awarded by the faculty are subject to scrutiny and scaling by the Institution whenever/wherever necessary. In such cases, the sessional and laboratory marks awarded by the teacher will be referred to a College Standing Committee/ Academic Committee. The Committee will arrive at a scaling factor and the marks will be scaled accordingly. The recommendations of the Committee are final and binding. The laboratory records and internal test papers shall be preserved as per the University rules and produced before the Committees of the University as and when asked for.
- 5.14 Candidates shall be permitted to apply for recounting/revaluation of SEE scripts

within the stipulated period with payment of prescribed fee.

6. Attendance Requirements

- 6.1 A student is eligible to write the Semester end examinations only if he / she acquires a minimum of 75% of attendance in aggregate of all the subjects.
- 6.2 Condonation of shortage of attendance in aggregate up to 10% (65% and above and below 75%) in each semester may be granted on medical grounds with a documentary evidence approved by the Academic Council
- 6.3 A stipulated fee shall be payable towards condonation of shortage of attendance.
- 6.4 Shortage of attendance below 65% in aggregate shall not be condoned under any circumstances.
- 6.5 Students whose shortage of attendance is not condoned are not eligible to write semester end examinations of that semester. Such students are detained and their registration for examination stands cancelled.
- 6.6 A student detained due to shortage of attendance in a semester may seek re-admission into that semester, as and when offered, within four weeks from the date of the commencement of class work with the academic regulations of the batch into which he/she gets admitted.
- 6.7 A student will be promoted to the next semester if he/she satisfies the attendance requirement of the present semester and shall not be eligible for readmission into the same semester.
- 6.8 For all mandatory, non credit courses offered in a semester, a “Satisfactory Participation Certificate” shall be issued to the student from the concerned authorities, only after securing $\geq 75\%$ attendance in such a course. No marks or Letter Grade shall be allotted for these activities.

7. Minimum Academic Requirements

The following academic requirements have to be satisfied in addition to the attendance requirements mentioned in item no.6.

- 7.1 A student is deemed to have satisfied the minimum academic requirements if he has earned the credits allotted to each theory/practical/project and secured not less 35% marks in semester end examination (SEE), and minimum 40% of marks in the sum total of the internal evaluation and end examination taken together.
- 7.2 The student has to pass the failed course by appearing the supplementary examination as per the requirement for the award of degree.
- 7.3 Students, who fail to earn 192 credits as indicated in the course structure within eight academic years from the year of their admission, shall forfeit their seat in B. Pharm. course and their admission stands cancelled.
- 7.4 A student shall be promoted from I Year to II Year only if he/she fulfills the academic requirements of securing 50% of average credits (24 credits out of 48 credits) upto I year II Semester, from all the examinations, whether or not the candidate takes the

examinations.

- 7.5 A student shall be promoted from II Year to III Year only if he/she fulfills the academic requirements of securing 50% of average credits (36 credits out of 72 credits) up to II year I semester, from all the examinations, whether or not the candidate takes the examinations.
- 7.6 A student shall be promoted from III year to IV year only if he/she fulfills the academic requirements of securing 50% of average credits (60 credits out of 120 credits) up to III year I semester, from all the examinations, whether or not the candidate takes the examinations.
- 7.7 A student shall register and put up minimum attendance in all 192 credits and earn all 192 credits for the award of degree.
- 7.8 When a Student is detained due to shortage of attendance in any semester, no Grade Allotments or SGPA/CGPA calculations will be done for that entire Semester in which he got detained.
- 7.9 When a Student is detained due to lack of Credits in any year, he may be readmitted after fulfillment of the Academic Requirements, with the Academic Regulations of the Batch into which he gets readmitted subject to 3.3.

8. Course pattern

- 8.1 The entire course of study is for four academic years in semester pattern.
- 8.2 A student eligible to appear for semester end examinations in a subject, but absent from it or failed in that examination, may write the exam in that subject during supplementary exams.
- 8.3 A student eligible to appear in the End Semester Examination in any Subject / Course, but absent at it or failed (thereby failing to secure P Grade or above), may reappear for that Subject / Course at the supplementary as and when examination conducted. In such cases, his Internal Marks (CIE) assessed earlier for that Subject/Course will be carried over, and added to the Marks to be obtained in the supplementary examinations, for evaluating his performance in that subject.

9. Minimum Instruction Days

The minimum instruction days for each semester shall be 90 days.

10. Grade Points

- 10.1 Marks will be awarded to indicate the performance of each student in each theory subject, or Lab/Practicals, or Seminar, or Project, or Mini-Project, Minor Course etc., based on the % marks obtained in CIE+SEE (Continuous Internal Evaluation + Semester End Examination, both taken together) as specified in Item 5 above, and a corresponding Letter Grade shall be given.
- 10.2 As a measure of the student's performance, a 10-point Absolute Grading System using the following Letter Grades and corresponding percentage of marks shall be followed.

Letter Grade	Grade Points	% of marks Secured (Class Intervals)
O (Out Standing)	10	80% and above ($\geq 80\%$, $\leq 100\%$)
A+ (Excellent)	9	Below 80% but not less than 70% ($\geq 70\%$, $< 80\%$)
A (Very Good)	8	Below 70% but not less than 60% ($\geq 60\%$, $< 70\%$)
B+ (Good)	7	Below 60% but not less than 55% ($\geq 55\%$, $< 60\%$)
B (Above Average)	6	Below 55% but not less than 50% ($\geq 50\%$, $< 55\%$)
C (Average)	5	Below 50% but not less than 45% ($\geq 45\%$, $< 50\%$)
P (Pass)	4	Below 45% but not less than 40% ($\geq 40\%$, $< 45\%$)
F (Fail)	0	Below 40% ($< 40\%$)
Ab (Absent)	0	--

10.3 A student obtaining F Grade in any Subject shall be considered 'failed' and will be required to reappear as 'Supplementary Candidate' in the End Semester Examination (SEE), as and when offered. In such cases; his Internal Marks (CIE Marks) in those Subject(s) will remain same as those he obtained earlier.

10.4 A Letter Grade does not imply any specific % of Marks.

10.5 In general, a student shall not be permitted to repeat any Subject/Course (s) only for the sake of 'Grade Improvement' or 'SGPA/CGPA Improvement'. However, he has to repeat all the Subjects/Courses pertaining to that Semester, when he is detained.

10.6 A student earns Grade Point (GP) in each Subject/ Course, on the basis of the Letter Grade obtained by him in that Subject/ Course (excluding Mandatory non-credit Courses). Then the corresponding 'Credit Points' (CP) are computed by multiplying the Grade Point with Credits for that particular Subject/ Course. **Credit Points (CP) = Grade Point (GP) x Credits For a Course**

10.7 The Student passes the Subject/ Course only when he gets $GP \geq 4$ (P Grade or above).

11. Registration

Each student has to compulsorily register for course work at the beginning of each semester as per the schedule mentioned in the Academic Calendar. It is absolutely necessary for the student to register for courses in time.

12 Earning of Credit

A student shall be considered to have completed a Course successfully and earned the credits if he/she secures an acceptable letter grade in the range 'O' to 'P'. Letter grade 'F' in any Course implies failure of the student in that Course and no credits earned.

13 Passing Standards:

- 13.1 A student shall be declared successful or 'passed' in a Semester, only when he gets a SGPA ≥ 5.00 (at the end of that particular Semester); and a student shall be declared successful or 'passed' in the entire UGP, only when he/she gets a CGPA ≥ 5.00 ; subject to the condition that he secures a GP ≥ 4 (P Grade or above) in every registered Subject/ Course in each Semester (during the entire UGP) for the Degree Award, as required
- 13.2 In spite of securing P Grade or above in some (or all) Subjects/ Courses in any Semester, if a Student receives a SGPA < 5.00 and/ or CGPA < 5.00 at the end of such a Semester, then he 'may be allowed' (on the 'specific recommendations' of the Head of the Department and subsequent approval from the Principal)

(i) to go into the next subsequent Semester (subject to fulfilling all other attendance and academic requirements as listed under Items 6-7);

(ii) to 'improve his SGPA of such a Semester (and hence CGPA) to 5.00 or above', by reappearing for ONE or MORE (as per Student's choice) of the same Subject(s) / Course(s) in which he has secured P Grade(s) in that Semester, at the Supplementary Examinations to be held in the next subsequent Semester(s). In such cases, his Internal Marks (CIE Marks) in those Subject(s) will remain same as those he obtained earlier.

In these considerations, the newly secured Letter Grades will be recorded and taken into account for calculation of SGPA and CGPA, only if there is an improvement.

- 13.3 A Student shall be declared successful or 'passed' in any Non-Credit Subject/ Course, if he secures a 'Satisfactory Participation Certificate' for that Mandatory Course.
- 13.4 After the completion of each Semester, a Grade Card or Grade Sheet (or Transcript) shall be issued to all the Registered Students of that Semester, indicating the Letter Grades and Credits earned. It will show the details of the Courses Registered (Course Code, Title, No. of Credits, Grade Earned etc.), Credits earned, SGPA, and CGPA.

14 Vertical Progression

It shall also be necessary to lay down uniform minimum standards for SGPA and CGPA together with the minimum number of *credits* to be earned in a semester for the *vertical progression* of students. This shall be used in facilitating the mobility of students from one College to another and also in avoiding any confusion among the students. The

- a) Minimum Standard for SGPA =5.0;
- b) Minimum Standard for CGPA =5.0; (at the end of each semester)

However, failure to secure a minimum CGPA = 5.0 at the end of any semester for the first time, shall **attract a warning** before approval of the student to continue in the following semester and will be required to register for courses having a GPA of 4.0 to improve the SGPA to 5.0 or above.

15 Eligibility for Award of B.Pharm. Degree

A student shall be eligible for award of the B.Pharm degree if he/she fulfils all the following conditions;

- 15.1 Registered and successfully completed all the components prescribed in the Programme of study to which he/she is admitted,
- 15.2 Obtained CGPA greater than or equal to 5.0 (Minimum requirements for Pass),
- 15.3 Has no dues to the Institute, hostels, Libraries, NCC/NSS etc., and
- 15.4 No disciplinary action is pending against him/her.

16 Award of Class

After a student has satisfied the requirements prescribed for the completion of the program and is eligible for the award of B. Pharm. Degree, he shall be placed in one of the following four classes:

CGPA	Class Awarded	From the CGPA secured from 192 credits
≥ 8.00	First Class with Distinction	
$\geq 6.50 - < 8.00$	First Class	
$\geq 5.50 - < 6.50$	Second Class	
$\geq 5.00 - < 5.50$	Pass Class	

- 16.1 The marks obtained in Continuous Internal Evaluation (CIE) and Semester end Examination (SEE) will not be shown in the memorandum of marks.
- 16.2 For the purpose of awarding First Class with Distinction (CGPA ≥ 8.0), the student must obtain the minimum required CGPA within 4 academic years or within 3 academic years in case of Lateral Entry candidates by clearing all the courses.
- 16.3 Candidates detained / prevented from writing the semester end examinations due to any reason in any semester are not eligible for the award of First Class with Distinction. Such candidates even if the CGPA ≥ 8.0 shall be placed in first class.
- 16.4 For the purpose of awarding First, Second and Pass Class, CGPA obtained in the examinations appeared within the maximum period allowed for the completion of course shall be considered as per the regulations.
- 16.5 A student with final CGPA (at the end of the UGP) < 5.00 will not be eligible for the Award of the Degree.
- 16.6 The CGPA can be converted to equivalent percentage of marks by using the following equation:

$$(\text{CGPA} - 0.5) \times 10$$

17 Consolidated Grade Card

A consolidated grade card containing credits & grades obtained by the candidates will be issued after completion of the four years B. Tech Programme.

18 Withholding of Results

If the student has not paid the dues, if any, to the Institute or if any case of indiscipline is pending against him, the result of the student will be withheld and he will not be allowed into the next semester. His degree will be withheld in such cases the matter will be referred to the academic council. The decision of the academic council is final.

19 Transitory Regulations

19.1 Discontinued, detained, or failed candidates are eligible for readmission as and when next offered as per the college admission procedure.

19.2 Students on transfer shall complete the prescribed courses of the concerned programme not covered earlier and however he/she should take the remaining programme along with others.

19.3 There shall be no branch transfers after the cutoff date of admissions in the academic year.

20 Transcripts

After successful completion of the total Programme of study, a Transcript containing performance of all academic years will be issued as a final record. Duplicate transcripts will also be issued if required after the payment of requisite fee.

21 Supplementary Examinations

In addition to the Regular Final Examinations held at the end of each semester, Supplementary Final Examinations will be conducted during the academic year. Candidates taking the Regular / Supplementary examinations as Supplementary candidates may have to take more than one End Semester Examination per day. A student can appear for any number of supplementary examinations till he/she clears all courses which he/she could not clear in the first attempt. However the maximum stipulated period cannot be relaxed under any circumstances.

22 Graduation Ceremony

22.1 The College shall have its own annual Graduation Ceremony for the award of degree to students completing the prescribed academic requirements in each case, in consultation with the University and by following the provisions in the Statute.

22.2 The College shall institute Prizes and Awards to meritorious students, for being given award annually at the Graduation Ceremony.

23 Termination From The Program

The admission of a student to the program may be terminated and the student asked to leave the Institute in the following circumstances:

23.1 The student fails to satisfy the requirements of the program within the maximum period stipulated for that program.

23.2 The student fails to satisfy the norms of discipline specified by the institute from time to time.

24 Non-Credit Courses (Mandatory Courses)

- 24.1 All the courses designated as mandatory course is a compulsory requirement for all students for the award of degree.
- 24.2 These activities carry no credits and are evaluated as Satisfactory/ Unsatisfactory.
- 24.3 Minimum attendance requirement as per the regulations is compulsory for completing the mandatory courses.

25 Amendments

- 25.1 The regulations hereunder are subject to amendments as may be made by the Academic Council of the College from time to time. Any or all such amendments will be effective from such date and to such batches of candidates (including those already undergoing the program) as may be decided by the Academic Council.

26 General

- 26.1 Wherever the words “he”, “him”, “his”, occur in the regulations, they include “she”, “her”, “hers”.
- 26.2 The academic regulation should be read as a whole for the purpose of any interpretation.
- 26.3 In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Academic Council is final.

ACADEMIC REGULATIONS FOR B. PHARM. (LATERAL ENTRY SCHEME)

Applicable for the students admitted into II year B. Tech. (Lateral Entry Scheme) from the Academic Year 2016-17 and onwards

1. Eligibility for award of B. Pharm. Degree (LES)

- 1.1 The LES candidates shall pursue a course of study for not less than three academic years and not more than six academic years.
- 1.2 The candidate shall register for 144 credits and secure 144 credits by securing a minimum CGPA of 5.0 from II to IV year B.Pharm. Program (LES) for the award of B.Pharm. degree.
- 1.3 The students, who fail to fulfill the requirement for the award of the degree in **six** academic years from the year of admission, shall forfeit their seats.
- 1.4 The attendance regulations of B. Pharm. (Regular) shall be applicable to B.Pharm.(LES).

2. Promotion Rule

A student shall be eligible for promotion in B.Pharm programme, if he/she acquires the minimum number of credits as given below:

- 2.1 A student shall be promoted from II Year to III Year only if he/she fulfills the academic requirements of securing 50% of average credits (12 credits out of 24 credits) up to II year I semester, from all the examinations, whether or not the candidate takes the examinations.
- 2.2 A student shall be promoted from III year to IV year only if he/she fulfills the academic requirements of securing 50% of average credits (36 credits out of 72 credits) up to III year I semester, from all the examinations, whether or not the candidate takes the examinations.
- 2.3 A student shall register and put up minimum attendance in all 144 credits and earn all 144 credits to be eligible for award of degree.
- 2.4 Students who fail to earn 144 credits as indicated in the course structure within six academic years, shall forfeit their seat in B.Pharm. course and their admission stands cancelled.

3. Award of Class

After a student has satisfied the requirement prescribed for the completion of the program and is eligible for the award of B. Pharm. Degree, he shall be placed in one of the following four classes:

CGPA	Class Awarded	From the CGPA secured from 144 credits
≥ 8.00	First Class with Distinction	
$\geq 6.50 - < 8.00$	First Class	
$\geq 5.50 - < 6.50$	Second Class	
$\geq 5.00 - < 5.50$	Pass Class	

4. All the other regulations as applicable to B. Pharm. 4-year degree course (Regular) will hold good for B.Pharm. (Lateral Entry Scheme).

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ANNEXURE - I

1 Grade Point Average

1.1 SGPA and CGPA

The *credit index* can be used further for calculating the Semester Grade Point Average (*SGPA*) and the Cumulative Grade Point Average (*CGPA*), both of which being important performance indices of the student. While *SGPA* is equal to the *credit index* for a semester divided by the total number of *credits* registered by the student in that semester, *CGPA* gives the sum total of *credit indices* of all the previous semesters divided by the total number of *credits* registered in all these semesters. Thus,

The Grade Point Average (GPA) will be calculated according to the formula:

$$GPA = \frac{\sum CiGi}{\sum Ci}$$

Where C_i = number of credits for the course i ,

G_i = grade points obtained by the student in the course.

- 1.2 Semester Grade Point Average (SGPA) is awarded to candidates considering all the courses of the semester. Zero grade points are also included in this computation. SGPA is rounded off to TWO Decimal Places.

SGPA will be computed as follows;

$$\sum [(Course\ credits) \times (Grade\ points)] \text{ (for all Courses passed in that semester)}$$

$$\sum [(Course\ credits)] \text{ (for all courses registered in that semester)}$$

- 1.3 To arrive at Cumulative Grade Point Average (CGPA), the formula is used considering the student's performance in all the courses taken in all the semesters completed up to the particular point of time. CGPA is rounded off to TWO Decimal Places.

CGPA will be computed as follows:

$$\sum [(Course\ credits) \times (Grade\ points)] \text{ (for all Courses passed upto that semester)}$$

$$\sum [(Course\ credits)] \text{ (for all Courses registered until that semester)}$$

CGPA is thus computed from the I Year First Semester onwards, at the end of each Semester, as per the above formula. However, the SGPA of I year I Semester itself may be taken as the CGPA, as there are no cumulative effects

1.4 Illustrative Example

An illustrative example given in below Table below indicates the use of the above two

equations in calculating SGPA and CGPA, both of which facilitate the declaration of academic performance of a student, at the end of a semester and at the end of successive semesters respectively. Both of them shall be normally calculated up to the second decimal position, so that the *CGPA*, in particular, can be made use of in rank ordering the student's performance in a class. If two students get the same *CGPA*, the tie should be resolved by considering the number of times a student has obtained higher *SGPA*; But, if it is not resolved even at this stage, the number of times a student has obtained higher grades like O, A, B etc shall be taken into account in rank ordering of the students in a class.

Year and Semester	Course No.	Credits	Grade	Grade Points	Credit Points
I Year I sem	XX101	5	A	8	40
I Year I sem	XX102	4	F	0	00
I Year I sem	XX103	3	A+	9	27
I Year I sem	XX104	4	F	0	00
I Year I sem	XX105	5	C	5	25
I Year I sem	XX106	5	P	4	20
Total		26 (18*)			112
SGPA = 112/26 = 4.31			CGPA = 4.31		
I Year II Sem	XX107	5	B+	7	35
I Year II Sem	XX108	4	A	8	32
I Year II Sem	XX109	3	C	5	15
I Year II Sem	XX110	5	P	4	20
I Year II Sem	XX111	4	A+	9	36
I Year II Sem	XX112	2	F	0	00
I Year II Sem	Xx113	2	A	8	16
Total		25 (23*)			154
SGPA = 154/25 = 6.16			CGPA = 266/51 = 5.22		

*Total No. of credits excluding those with 'F'; this is particularly important to keep track of the number of credits earned by a student up to any semester;

Malpractices Rules

S.No.	Nature of Malpractices / Improper conduct during examinations	Punishment
	If the candidate:	
1. (a)	Possesses or keeps accessible in examination hall, any paper, note book, programmable calculators, Cell phones, pager, palm computers or any other form of material concerned with or related to the subject of the examination (theory or practical) in which he is appearing but has not made use of (material shall include any marks on the body of the candidate which can be used as an aid in the subject of the examination)	Expulsion from the examination hall and cancellation of the performance in that subject only.
(b)	Gives assistance or guidance or receives it from any other candidate orally or by any other body language methods or communicates through cell phones with any candidate or persons in or outside the exam hall in respect of any matter.	Expulsion from the examination hall and cancellation of the performance in that subject only of all the candidates involved. In case of an outsider, he will be handed over to the police and a case is registered against him.
2.	Has copied in the examination hall from any paper, book, programmable calculators, palm computers or any other form of material relevant to the subject of the examination (theory or practical) in which the candidate is appearing.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted to appear for the remaining examinations of the subjects of that Semester/year. The hall ticket of the candidate is to be cancelled.
3.	Impersonates any other candidate in connection with the examination.	The candidate who has impersonated shall be expelled from examination hall. The candidate is also debarred and forfeits the seat. The performance of the original candidate, who has been impersonated, shall be cancelled in all the subjects of the examination (including practicals and project work) already appeared and shall not be allowed to appear for examinations of the remaining subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all Semester end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat. If the imposter is an outsider, he will be handed over to the police and a case is registered against him.
4.	Smuggles in the Answer book or additional sheet or takes out or arranges to send out the question paper during the examination or answer book or additional sheet, during or after the examination.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all Semester end examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with

		forfeiture of seat.
5	Uses objectionable, abusive or offensive language in the answer paper or in letters to the examiners or writes to the examiner requesting him to award pass	Cancellation of the performance in that subject.
6	Refuses to obey the orders of the Chief Superintendent / Assistant Superintendent / any officer on duty or misbehaves or creates disturbance of any kind in and around the examination hall or organizes a walk out or instigates others to walk out, or threatens the officer-in charge or any person on duty in or outside the examination hall of any injury to his person or to any of his relations whether by words, either spoken or written or by signs or by visible representation, assaults the officer – in charge, or any person on duty in or outside the examination hall or any of his relations, or indulges in any other act of misconduct or mischief which result in damage to or destruction of property in the examination hall or any part of the college campus or engages in any other act which in the opinion of the officer on duty amounts to use of unfair means or misconduct or has the tendency to disrupt the orderly conduct of the examination.	In case of students of the college, they shall be expelled from examination halls and cancellation of their performance in that subject and all other subjects the candidate(s) has (have) already appeared and shall not be permitted to appear for the remaining examinations of the subjects of that semester/year. The candidates also are debarred and forfeit their seats. In case of outsiders, they will be handed over to the police and a police case is registered against them.
7.	Leaves the exam hall taking away answer script or intentionally tears of the script or any part thereof inside or outside the examination hall.	Expulsion from the examination hall and cancellation of performance in that subject and all the other subjects the candidate has already appeared including practical examinations and project work & shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred for two consecutive semesters from class work and all Semester examinations. The continuation of the course by the candidate is subject to the academic regulations in connection with forfeiture of seat.

8.	Possess any lethal weapon or firearm in the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat.
9.	If student of the college, who is not a candidate for the particular examination or any person not connected with the college indulges in any malpractice or improper conduct mentioned in clause 6 to 8.	Student of the colleges expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year. The candidate is also debarred and forfeits the seat. Person(s) who do not belong to the College will be handed over to police and, a police case will be registered against them.
10.	Comes in a drunken condition to the examination hall.	Expulsion from the examination hall and cancellation of the performance in that subject and all other subjects the candidate has already appeared including practical examinations and project work and shall not be permitted for the remaining examinations of the subjects of that semester/year.
11.	Copying detected on the basis of internal evidence, such as, during valuation or during special scrutiny.	Cancellation of the performance in that subject and all other subjects the candidate has appeared including practical examinations and project work of that semester/year examinations.
12.	If any malpractice is detected which is not covered in the above clauses 1 to 11 shall be reported to the head of Institute for further action on suitable punishment.	

All cases pertaining to Malpractices in Examinations will be pursued by the Committee Constituted by the Chief Controller of the Examination.

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I YEAR I SEMESTER**COURSE STRUCTURE**

Code	Subject	Lectures	T/P	Credits
A61001/ A61002	Remedial Mathematics-I/ Remedial Biology	3	1	3
A61003	Dispensing and Hospital Pharmacy-I	2	1	2
A61004	Pharmaceutical Inorganic Chemistry-I	3	1	3
A61005	Pharmaceutical Organic Chemistry - I	3	1	3
A61006	Human Anatomy and Physiology	3	1	3
A61007	English -I	2	0	2
A61201	Pharm. Inorganic Chemistry Lab - I	0	3	2
A61202	Pharmaceutical Organic Chemistry Lab - I	0	3	2
A61203	Human Anatomy and Physiology Lab	0	3	2
A61204	English Language Communication Skills Lab - I	0	3	2
	Total	16	17	24

I YEAR II SEMESTER**COURSE STRUCTURE**

Code	Subject	Lectures	T/P	Credits
A62001	Remedial Mathematics-II	3	1	3
A62002	Dispensing and Hospital Pharmacy-II	2	1	2
A62003	Pharm. Inorganic Chemistry-II	3	1	3
A62004	Pharmaceutical Organic Chemistry-II	3	1	3
A62005	Anatomy, Physiology and Health education	3	1	3
A62006	English -II	2	0	2
A62201	Dispensing and Hospital Pharmacy Lab	0	3	2
A62202	Pharm. Inorganic Chemistry Lab-II	0	3	2
A62203	Pharmaceutical Organic Chemistry Lab-II	0	3	2
A62204	English Language Communication Skills Lab-II	0	3	2
A62205	Remedial Biology Lab	0	3	3
	Total	16/14	17/19	24/24

Note: All the end examinations (Theory and Practical) are of Three hours duration.

T – Tutorial

P – Practical

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B.Pharmacy I year I Sem.

L	T/P	C
3	1/-	3

(A61001)REMEDIAL MATHEMATICS – I

UNIT I

Permutations & combinations-Binomial Theorem.

UNIT II

Partial Fractions - Matrices - Determinants - Solving simultaneous equations-Cramer's Rule, Matrix Inversion Method.

UNIT III

Trigonometry

Trigonometric ratios and the relations between them Sin (A+B), Cos (A+B), Tan (A+B) formulae and problems. Trigonometric ratios of multiple angles-Heights and distances of simple cases.

UNIT IV

Co-ordinate Geometry: Distances between points-Area of a triangle, Co-ordinates of a point dividing a given segment in a given ratio-locus.

UNIT V

Differential Calculus: limits, Continuity and Differentiation, Problems on differentiation without using first principle, Rules of differentiation, problems including trigonometric, logarithmic and transcendental function.

TEXT BOOKS:

1. Intermediate first Year mathematics.
2. Intermediate Second year mathematics, Telugu Akademi, Hyderabad.
3. Text book of Remedial Mathematics P. Seshagiri Rao.
4. Higher Engineering Mathematics by Grewal.
5. Text book of Remedial Mathematics by Dr. A Ramakrishna Prasad Cengage Learning.

REFERENCE:

1. Pharmaceutical Arithmetic's by Mohd. Ali CBS publishers and distributor, New Delhi.
2. Copherhensive Remedial Mathematics for B. Pharmacy by Patkar. Shyam.
3. Remedial Mathematics by Shahanaz Bathul (2012), PHI Publications, New Delhi.

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(A61002) Remedial Biology

UNIT – I

Methods of classification of plants.

Plant cell: It's detailed structure, mitosis, meiosis different types of plant tissues and their functions.

UNIT II

Simple and compound microscopes used in biology; section cutting; staining and mounting of sections.

Morphology and histology of root, stem, bark, wood, leaf, flower, fruit and seed. Modifications of root and stem.

UNIT III

. **General survey of animal kingdom:** structure and life history of parasites illustrated by Amoeba, Entamoeba, Trypanosoma, Plasmodium, Taenia, Ascaris, Schistosoma, Oxyuris and Ancylostoma

UNIT IV

General structure and life history of insects like Cockroach, Mosquito and Housefly

UNIT V

General structure and life history of insects like Mite and Silkworm. Relationship of insects with medicinal crops.

TEXT BOOKS

1. Intermediate First Year and Second Year Botany / Zoology Text Books printed and published by Telugu Academy, Himayatnagar, Hyderabad.
2. A.C. Dutta, Text Book of Botany
3. Botany for Degree students Vol I & II by B.P. Pandey
4. Enger- Concepts biology

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(A61003) DISPENSING AND HOSPITAL PHARMACY – I

UNIT-I

Genesis and Evolution of Pharmacy: History of Pharmacy, origin and development of the Pharmacopoeias, History of Ayurveda, salient features of IP, USP and BP.

UNIT-II

Dispensing Pharmacy: Principles of dispensing, Introduction to prescription, parts of prescription, Handling of prescription, source of errors in prescription, care required in dispensing procedures including labelling of dispensed products. Weights and Measures, introduction to Latin terms, Percentage calculations, alligation method, proof spirit calculations, displacement value and calculations of isotonicity adjustment. General dispensing procedure, **Posology**-child dose calculations

UNIT-III

Introduction to Dosage forms and different excipients used in pharmaceuticals.

Principles involved and procedures adopted in dispensing of the following classes of preparations.

i) Powders (ii) Mixtures (iii) Elixirs (iv) Linctus (v) Aromatic waters (vi) lotions & liniments (vii) Suspensions and emulsions (viii) Collodions (ix) Enemas (x) ointments (xi) Creams

Definition of the following preparations like Tablets, capsules, pastes, jellies, suppositories, ophthalmics, lozenges, pills, inhalations, paints, sprays, Aersols,

UNIT-IV

Extraction and galenical products: Principle and methods of extraction, preparation of infusion, tinctures, dry, soft liquid extracts.

UNIT-V

Incompatibilities: Physical, chemical and therapeutic incompatibilities – methods of over coming and handling of prescriptions with incompatibility.

Spurious drugs: Introduction and identification of spurious drugs

TEXT BOOKS

1. Cooper & Gunns Dispensing Pharmacy, CBS, Publ. and Distributors New Delhi.
2. N.K.Jain and S.N.Sharma , A text book Professional Pharmacy
3. Jain & Gupta, Modern dispensing Pharmacy
4. R.M Metha, Dispensing Pharmacy.

REFERENCE

1. Introduction to Pharmaceutical dosage forms by Howard C. Ansel.
2. Lippincott William and Wilkins, Remington's Pharmaceutical Sciences.
3. E.A. Rawlkins, Bentley's Text Book of Pharmaceutics, Elbs publication.

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L	T/P	C
3	1/-	3

(A61004)PHARMACEUTICAL INORGANIC CHEMISTRY – I

Unit – I:

Introduction to Pharmaceutical Chemistry
Classification of Inorganic Pharmaceutical Compounds
Sources of impurities, Quality control and test for purity
Qualitative test for cations and anions
Limit test for chlorides, sulphates, iron, lead, heavy metals and arsenic.

Unit – II:

Introduction to Volumetric Analysis: Types of volumetric analysis
Introduction to acids, bases and buffers, Buffer systems in human body
Acid – Base regulators – Definition, Preparation, Assay Principle, Limit test and uses of sodium bicarbonate, sodium citrate, sodium lactate, sodium acetate and potassium citrate.

Unit – III:

Electrolytes
Introduction and classification
Definition, preparation, assay principle, limit test and uses of
Sodium & Potassium replenishers: Sodium Chloride, Compound Sodium Chloride Solution (Ringer Solution), Potassium Chloride, ORS
Calcium replenishes: Calcium gluconate, Dibasic Calcium Phosphate, Calcium Chloride

Unit – IV:

Introduction and classification of dental products
Definition, preparation, assay principle, limit test and uses of
Fluorides: NaF_2 , SnF_2 and Sodium monofluoro phosphate
Oral antiseptic and Astringents: H_2O_2 , MgO_2 , ZnO_2
Mouth washes
Dentifrices: CaCO_3 , Dibasic calcium phosphate, Calcium Phosphate, Sodium metaphosphate and SrCl_2
Cements and fillers: ZnO

Unit – V:

Introduction, Definition, preparation, assay principle, limit test and uses of
Expectorants: NH_4Cl and Potassium Iodide
Emetics: Potassium antimony tartarate, CuSO_4
Antidotes: Sodium thiosulphate, Sodium Nitrite

TEXT BOOKS

1. G.R. Chatwal, Pharmaceutical Chemistry – Inorganic, 5th edition, Vol – I, Mumbai; Himalaya Publishing House, 2011
2. A.H.Beckett and J.B.Stenlake, Practical pharmaceutical chemistry, 1st edition, Part-I, New Delhi; CBS Publishers and Distributors, 2005
3. P. Gundu Rao, pharmaceutical and Medicinal Inorganic chemistry, 1st edition, New Delhi; Vallabh Publications, 2008
4. Satya prakash, G.D.Tuli, S.K Basu, R.D. Madan, Advanced Inorganic Chemistry, 1st edition, Volume – I, S.Chand & Company LTD., 2010

REFERENCES

1. L.M. Atherden, Bentley and Driver's Textbook of Pharmaceutical Chemistry, London; Oxford University Press
2. Indian Pharmacopoeia 2010

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3	1/-	3

(A61005)PHARMACEUTICAL ORGANIC CHEMISTRY – I

UNIT – I

Structure and Activity of Organic Molecules: Shapes of organic molecules, bond lengths, bond angles and bond dissociation energies. Electronic effects in organic molecules: inductive effect, electromeric effect, mesomeric effect, hyperconjugation, concept of resonance, types of organic reagents and reactions.

UNIT – II

Aliphatic/Alicyclic Hydrocarbons: Nomenclature, isomerism (chain, conformational and geometrical) relative stabilities (heats of combustion and hydrogenation), ring stabilities of cyclohexane, chair-boat conformation, Bayer's strain theory and sachse-mohr theory. Free radical substitution reactions (halogenation) of alkanes.

UNIT – III

Alkenes: Electrophilic addition reactions of alkenes, Markovnikov's rule, Kharasch effect, Bayer's oxidation (cis-hydroxylation), Polymerisation.

Alkadienes: Stability & 1,4 addition reactions of conjugated alkadienes.

Alkynes: Acidity of 1-alkynes, formation of metal acetylides. Addition of hydrogen halide (HCl), addition of water and keto-enol tautomerism., Stereo specific reduction of alkynes.

UNIT – IV

Aromatic Hydrocarbons: Kekule's structure of benzene, bond lengths, heats of hydrogenation and stability, molecular orbital picture of benzene, aromaticity, Huckel's rule, nomenclature of benzene derivatives, characteristic reactions of benzene, theory of reactivity and orientation in monosubstituted benzenes.

Halogen compounds- Aromatic- Nomenclature, low reactivity of halo benzenes towards nucleophilic substitution.

UNIT – V

Halogen Compounds-Aliphatic: Nomenclature, general methods of preparation, characteristic nucleophilic substitution reactions, factors that play role in SN¹ and SN², Walden inversion, elimination reaction and Saytzeff's rule.

TEXT BOOKS

1. Morrison TR, Boyd RN, Bhattacharjee SK. Organic chemistry. 7th Ed. New Delhi: Pearson Prentice hall of India private limited; 2011.
2. Arun bhal, Bhal BS. Advanced Organic chemistry. New Delhi: S.Chand & Company Ltd; 2010
3. Agarwal OP. Reactions and Reagents in Organic Chemistry. 43rd Ed. Meerut: Goel Publishing House; 2008.

REFERENCES

1. Finar IL. The Fundamentals Principles of Organic Chemistry. 6th Ed. New Delhi: Vol.I Pearson Education Ltd; 2009.
2. Jerry March. Advanced Organic Chemistry. 6th Ed. New Delhi: John Wiley & Sons Publishers; 2007

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3	1/-	3

(A61006) Human Anatomy and Physiology

UNIT-I

Cell Biology: Structure of cell and its components, their function and cell cycle. Elementary tissues of the human body: epithelial, connective, muscular and nervous tissues, their sub- types and characteristics. Body fluids, Homeostasis.

UNIT-II

Skeletal system: Structure, composition and functions of skeleton, Ossification (Formation of bone), classification of joints, types of movements at joints,

Skeletal muscles: Gross anatomy, physiology of muscle contraction, physiological properties of skeletal muscles.

UNIT-III

Haemopoietic system: Composition and functions of blood and its elements, Haemopoiesis, their disorders, blood groups and their significance, mechanism of coagulation, disorders of platelets and coagulation. Anemias and its types. Common types of neoplasms.

UNIT-IV

Lymphatic System: Composition, formation and circulation of lymph; disorders of lymph and lymphatic system. Basic physiology and functions of spleen & Lymph node.

UNIT -V

Cardiovascular system: Basic anatomy of the heart. Physiology of heart, blood vessels and circulation. Basic understanding of pulmonary, coronary, hepatic systems, understanding of cardiac cycle, heart sounds and electrocardiogram. Blood pressure and its regulation. Brief outline of cardiovascular disorders like hypertension, hypotension, atherosclerosis, angina, myocardial infarction, congestive heart failure and cardiac arrhythmias.

TEXT BOOKS

- 1) Gerard J Tortora, Bryan H Derrickson. Principles of Anatomy and Physiology. Vol -1&2 .12th Ed New Jersey: John Wiley and Sons Inc; 2009.
- 2) Elaine N. Marieb, Essential of Human Anatomy & Physiology 8th ed. New Delhi: Pearson education Inc; 2009.
- 3) Anne Waugh, Allison Grant, Ross & Willson, Text Book of Human Anatomy and physiology in health and illness. 11th Ed. UK: Elsevier Ltd; 2010.

REFERENCES

- 1) Arthur C Guyton, John E Hall. Textbook of Medical Physiology, 10th Ed. New Delhi: Elsevier Ltd; 2005.
- 2) K. Sembulingam and Prema Sembulingam, Essentials of Medical Physiology, 3rd Ed .New Delhi: Jaypee Bros Medical publishers Ltd; 2004.

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2	-/-	2

(A61007) English – I

1. INTRODUCTION:

In view of the growing importance of English as a tool for global communication and the consequent emphasis on training students to acquire communicative competence, the syllabus has been designed to develop linguistic and communicative competencies of Engineering students. The prescribed books and the exercises are meant to serve broadly as students' handbooks.

In the English classes, the focus should be on the skills of reading, writing, listening and speaking and for this the teachers should use the text prescribed for detailed study. For example, the students should be encouraged to read the texts/selected paragraphs silently. The teachers can ask comprehension questions to stimulate discussion and based on the discussions students can be made to write short paragraphs/essays etc. The text for non-detailed study is for extensive reading/reading for pleasure. Hence, it is suggested that they read it on their own the topics selected for discussion in the class. The time should be utilized for working out the exercises given after each section, as also for supplementing the exercises with authentic materials of a similar kind for example, from newspaper articles, advertisements, promotional material etc.. However, the stress in this syllabus is on skill development, fostering ideas and practice of language skills.

2. OBJECTIVES:

- To improve the language proficiency of the students in English with emphasis on LSRW skills.
- To equip the students to study academic subjects more effectively using the theoretical and practical components of the English syllabus.
- To develop the study skills and communication skills in formal and informal situations.

LEARNING OUTCOMES:

- Usage of English Language, written and spoken.
- Enrichment of comprehension and fluency
- Gaining confidence in using language in verbal situations.

SYLLABUS:

Listening Skills:

Objectives

- To enable students to develop their listening skill so that they may appreciate its role in the LSRW skills approach to language and improve their pronunciation
- To equip students with necessary training in listening so that they can comprehend the speech of people of different backgrounds and regions

Students should be given practice in listening to the sounds of the language to be able to recognise them, to distinguish between them to mark stress and recognise and use the right intonation in sentences.

- Listening for general content
- Listening to fill up information
- Intensive listening
- Listening for specific information

Speaking Skills:

Objectives

1. To make students aware of the role of speaking in English and its contribution to their success.
2. To enable students to express themselves fluently and appropriately in social and professional contexts.
 - Oral practice
 - Describing objects/situations/people
 - Role play – Individual/Group activities (Using exercises from the five units of the prescribed text: **Skills Annexe - Functional English for Success**)
 - Just A Minute(JAM) Sessions.

Reading Skills:

Objectives

1. To develop an awareness in the students about the significance of silent reading and comprehension.
2. To develop the ability of students to guess the meanings of words from context and grasp the overall message of the text, draw inferences etc.
 - Skimming the text
 - Understanding the gist of an argument
 - Identifying the topic sentence
 - Inferring lexical and contextual meaning
 - Understanding discourse features
 - Scanning
 - Recognizing coherence/sequencing of sentences

NOTE : The students will be trained in reading skills using the prescribed text for detailed study.

They will be examined in reading and answering questions using ‘unseen’ passages which may be taken from authentic texts, such as magazines/newspaper articles.

Writing Skills :

Objectives

1. To develop an awareness in the students about writing as an exact and formal skill
2. To equip them with the components of different forms of writing, beginning with the lower order ones.
 - Writing sentences
 - Use of appropriate vocabulary
 - Paragraph writing
 - Coherence and cohesiveness
 - Narration / description
 - Note Making
 - Formal and informal letter writing
 - Describing graphs using expressions of comparison

UNIT –I

Chapter 1: ‘ Wit and Humour ’ from ‘Skills Annexe’ -Functional English for Success, Published by Orient Black Swan, Hyderabad	2 hrs
L-Listening For Sounds, Stress and Intonation	1
S-Greeting and Taking Leave, Introducing Oneself and Others (Formal and Informal Situations)	1
R- Reading for Subject/ Theme	1
W- Writing Paragraphs	1

UNIT –II

Chapter 2:‘ Mokshagundam Visvesvaraya ’ from “Epitome of Wisdom”, Published by Maruthi Publications, Hyderabad.	3 hrs
G-Types of Nouns and Pronouns	1
V- Homonyms, homophones synonyms, antonyms	2

UNIT-III

Chapter 3: “ Cyber Age ” from “Skills Annexe -Functional English for Success” Published by Orient Black Swan, Hyderabad.	2 hrs
L – Listening for themes and facts	1
S – Apologizing, interrupting, requesting and making polite conversation	1
R- For theme and gist	1
W- Describing People, Places, Objects, Events	1

UNIT-IV

Chapter 4:‘ Three Days To See ’ from “Epitome of Wisdom”, Published by Maruthi Publications, Hyderabad	2 hrs
G- Verb forms	2
V- noun, verb, adjective and adverb	2

UNIT-V

Chapter 5:‘ Risk Management ’ from “Skills Annexe -Functional English for Success” Published by Orient Black Swan, Hyderabad	2 hrs
L – For Main Points and Sub-Points for Note Taking	1
S – Giving Instructions and Directions; Speaking of Hypothetical Situations	1
R – Reading for Details	1
W – Note-Making, Information Transfer, Punctuation	1

TEXTBOOKS PRESCRIBED:**For Detailed study:**

First Textbook: “Skills Annexe -Functional English for Success”, Published by Orient Black Swan, Hyderabad

For Non-detailed study:

Second text book “Epitome of Wisdom”, Published by Maruthi Publications, Guntur

REFERENCES :

1. Contemporary English Grammar Structures and Composition by David Green, MacMillan Publishers, New Delhi. 2010.
2. Innovate with English: A Course in English for Engineering Students, edited by T Samson, Foundation Books.

3. English Grammar Practice, Raj N Bakshi, Orient Longman.
4. Technical Communication by Daniel Riordan. 2011. Cengage Publications. New Delhi.
5. Effective English, edited by E Suresh Kumar, A RamaKrishna Rao, P Sreehari, Published by Pearson
6. Handbook of English Grammar& Usage, Mark Lester and Larry Beason, Tata Mc Graw – Hill.
7. Spoken English, R.K. Bansal & JB Harrison, Orient Longman.
8. Technical Communication, Meenakshi Raman, Oxford University Press
9. Objective English Edgar Thorpe & Showick Thorpe, Pearson Education
10. Grammar Games, Renuvolcuri Mario, Cambridge University Press.
11. Murphy's English Grammar with CD, Murphy, Cambridge University Press.
12. Everyday Dialogues in English, Robert J. Dixson, Prentice Hall India Pvt Ltd.,
13. ABC of Common Errors Nigel D Turton, Mac Millan Publishers.
14. Basic Vocabulary Edgar Thorpe & Showick Thorpe, Pearson Education
15. Effective Technical Communication, M Ashraf Rizvi, Tata Mc Graw –Hill.
16. An Interactive Grammar of Modern English, Shivendra K. Verma and Hemlatha Nagarajan , Frank Bros & CO
17. A Communicative Grammar of English, Geoffrey Leech, Jan Svartvik, Pearson Education
18. Enrich your English, Thakur K B P Sinha, Vijay Nicole Imprints Pvt Ltd.,
19. A Grammar Book for You And I, C. Edward Good, MacMillan Publishers

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L	T/P	C
0	-/3	2

(A61201) PHARMACEUTICAL INORGANIC CHEMISTRY Lab – I**List of experiments:****A) Limit tests for the following as per the procedure given in Indian Pharmacopoeia (1996 – including the latest addenda)**

- 1) Chlorides
- 2) Sulphates
- 3) Heavy metals
- 4) Iron
- 5) Arsenic (demonstration)

B) 6) Balances and Weighing; Calibration of weights, Pipette and Burette.

7) Preparation and standardization of Hydrochloric acid solution (0.1N).

8) Preparation and standardization of Potassium permanganate solution (0.1N & 0.1M).

9) Preparation of a primary standard solution of 0.1N Potassium hydrogen-phthalate.

10) Preparation and standardization of 0.1N EDTA solution.

REFERENCES

1. Indian Pharmacopoeia - 2010.
2. Vogel's Qualitative Analysis
3. Pharmaceutical Inorganic Chemistry, Subba Rao

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B.Pharmacy I year I Sem

L	T/P	C
0	-/3	2

(A61202) PHARMACEUTICAL ORGANIC CHEMISTRY LAB – I

I. Introduction to Equipment & Glassware

1. Determination of melting point.
2. Determination of boiling point.
3. Recrystallization (purification including decolourization) of two compounds.
4. Purification and drying of organic solvents.

I. Preparation of organic compounds

1. N-Acetylation : Preparation of Acetanilide from Aniline
2. O-Acetylation : Preparation of Aspirin from Salicylic acid
3. Nuclear Bromination : Preparation of p-Bromoacetanilide from Acetanilide
4. Hydrolysis : Preparation of p-Bromoaniline from p-romoacetanilide
5. Benzoylation : Preparation of Phenyl Benzoate
6. Extensive Nuclear Substitution: Preparation of Tribromophenol from phenol

II. Green synthesis (At least three experiments to be carried out)

1. Acetylation of primary amine [4+2] cycloaddition reaction (Diels-Alder reaction between furan and maleic acid)
2. (Benzil to Benzilic acid rearrangement)
3. Thiamine hydrochloride catalyzed synthesis of benzoin
4. Pinacol pinacolone rearrangement reaction, (Preparation of benzopinacolone)
5. Radical coupling reaction (Preparation of 1, 1-bis-2-naphthol)
6. Transesterification reaction, (Synthesis of biodiesel)
7. Nitration of phenol

REFERENCES

1. Tatchell AR, Furniss BS, Hannaford AJ, Smith PWG. Vogel's Textbook of Practical Organic Chemistry. 5th Ed. New Delhi: Pearson Education Ltd; 2008.
2. Bansal RK. Laboratory Manual of Organic Chemistry. 5th Ed. New Delhi: New Age International (P) Ltd; 2010.
3. Mann FG, Saunders BC. Practical Organic Chemistry. : 4th Ed. New Delhi: Orient Longman Limited; 2001.

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B.Pharmacy I year I Sem

L	T/P	C
0	-/3	2

(A61203) HUMAN ANATOMY AND PHYSIOLOGY LAB

List of Experiments:

1. Study of compound microscope and its Handling.
2. Study of human skeleton.
3. Study of different systems with the help of charts and models.
4. Microscopic study of different tissues.
5. Estimation of Haemoglobin in blood.
6. Determination of bleeding time, clotting time.
7. Estimation of R.B.C. count
8. Estimation of W.B.C count
9. Estimation of D.L.C.
10. Determination of ESR (Erythrocyte Sedimentation Rate).
11. Recording of body temperature, pulse rate and blood pressure, basic understanding of electrocardiogram-PQRST waves and their significance.

REFERENCES

1. Gerard J Tortora. A Brief Atlas of The Skeleton, Surface Anatomy And Selected Medical Images.10th Ed.UK: Jhon Wiley and Sons Inc; 2006.
2. S.R Kale & R.R Kale Practical Human Anatomy and Physiology .3rd Ed.Pune: Nirali prakashan; 2011.

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B.Pharmacy I year I Sem

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(A61204) English Language Communication Skills Lab – I

The **Language Lab** focuses on the production and practice of sounds of language and familiarises the students with the use of English in everyday situations and contexts.

Objectives

1. To facilitate computer-aided multi-media instruction enabling individualized and independent language learning
2. To sensitise the students to the nuances of English speech sounds, word accent, intonation and rhythm
3. To bring about a consistent accent and intelligibility in their pronunciation of English by providing an opportunity for practice in speaking
4. To improve the fluency in spoken English and neutralize mother tongue influence
5. To train students to use language appropriately for interviews, group discussion and public speaking

Learning Outcomes:

1. Better Understanding of nuances of language through audio- visual experience and group activities
2. Neutralization of accent for intelligibility
3. Speaking with clarity and confidence thereby enhancing employability skills of the students

Syllabus: English Language Communication Skills Lab shall have two parts:

a. Computer Assisted Language Learning (CALL) Lab

b. Interactive Communication Skills (ICS) Lab

The following course content is prescribed for the English Language Communication Skills Lab:

Exercise-I

CALL Lab: Introduction to Phonetics
Speech Sounds
Vowels and Consonants

Exercise-II

ICS Lab: Ice-Breaking activity and JAM session
Articles, Prepositions, Word formation- Prefixes & Suffixes, Synonyms & Antonyms

Exercise-III

CALL Lab: Structure of Syllables
Past Tense Marker and Plural Marker
Weak Forms and Strong Forms
Consonant Clusters.

Exercise-IV

ICS Lab: Situational Dialogues -Role-Play- Self-introduction and introducing others- Greetings- Apologies- Requests.

Exercise-V

ICS Lab: Social and Professional Etiquette and Telephone Etiquette-Tenses-Non-Verbal Communications.

Minimum Requirement of infra structural facilities for ELCS Lab:

1. Computer Assisted Language Learning (CALL) Lab:

The Computer aided Language Lab for 40 students with 40 systems, one master console, LAN facility and English language software for self- study by learners.

System Requirement (Hardware component):

Computer network with Lan with minimum 60 multimedia systems with the following specifications:

- i) P – IV Processor
- a) Speed – 2.8 GHZ
- b) RAM – 512 MB Minimum
- c) Hard Disk – 80 GB
- ii) Headphones of High quality

2. Interactive Communication Skills (ICS) Lab :

The Interactive Communication Skills Lab: A Spacious room with movable chairs and audio-visual aids with a Public Address System, a T. V., a digital stereo –audio & video system and camcorder etc.

Books Suggested for English Language Lab Library (to be located within the lab in addition to the CDs of the text book which are loaded on the systems):

1. Suresh Kumar, E. & Sreehari, P. 2009. A Handbook for English Language Laboratories. New Delhi: Foundation
2. **Strengthen Your Steps** - Dr. M. Hari Prasad and others, Maruthi Publications
3. Speaking English Effectively 2nd Edition by Krishna Mohan and N. P. Singh, 2011. Macmillan Publishers India Ltd. Delhi.
4. Sasi Kumar, V & Dhamija, P.V. How to Prepare for Group Discussion and Interviews. Tata McGraw Hill
5. Hancock, M. 2009. English Pronunciation in Use. Intermediate. Cambridge: CUP
6. Spoken English: A Manual of Speech and Phonetics by R. K. Bansal & J. B. Harrison. 2013. Orient Blackswan. Hyderabad.
7. Hewings, M. 2009. English Pronunciation in Use. Advanced. Cambridge: CUP
8. Marks, J. 2009. English Pronunciation in Use. Elementary. Cambridge: CUP
9. Nambiar, K.C. 2011. Speaking Accurately. A Course in International Communication. New Delhi : Foundation
10. Soundararaj, Francis. 2012. Basics of Communication in English. New Delhi: Macmillan
11. **Spoken English** (CIEFL) in 3 volumes with 6 cassettes, OUP.
12. **English Pronouncing Dictionary** Daniel Jones Current Edition with CD.
13. **A textbook of English Phonetics for Indian Students** by T. Balasubramanian (Macmillan)
14. **Lab Manual:** A Manual entitled “**English Language Communication Skills (ELCS) Lab Manual- cum- Work Book**”, published by Cengage Learning India Pvt. Ltd, New Delhi. 2013

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(A62001)REMEDIAL MATHEMATICS - II

UNIT I

Applications of differentiation-Lengths and equations of tangents and normals. Maxima and minima. Introduction to Partial Differentiation.

UNIT II

Integral Calculus: Integration as an inverse process of differentiation, Integration by substitution, integration by parts, integration of algebraic function of E^x .

UNIT III

Definite integrals, Evolution of area in simple cases.

UNIT IV

Differential equations: Formation of a differential equation, order and degree, solution of first order differential equations-variable separable, linear, equations reducible to linear, Exact equations (Equations reducible to exact are not included).

UNIT V

Applications of 1st order and 1st degree - law of Natural growth and decay. Newton's Law of cooling. Homogeneous Linear differential equations with constant coefficients.

TEXT BOOKS:

1. Intermediate first Year mathematics.
2. Intermediate Second year mathematics, Telugu Akademi,
3. Text book of Remedial Mathematics P. Seshagiri Rao.
4. Higher Engineering Mathematics by Grewal.
5. Text book of Remedial Mathematics by Dr. A Ramakrishna Prasad Cengage Learning.

REFERENCE:

1. Pharmaceutical Arithmetic's by Mohd. Ali CBS publishers and distributor, New Delhi.
2. Comprehensive Remedial Mathematics for B. Pharmacy by Patkar. Shyam.
3. Remedial Mathematics by Shahanaz Bathul (2012), PHI Publications, New Delhi.

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(A62002) DISPENSING AND HOSPITAL PHARMACY – II

UNIT-I

Organization: Organization of a hospital and hospital pharmacy, responsibilities of a hospital pharmacist, pharmacy and therapeutic committee.

UNIT-II

Drug Distribution: Procedural manual, drug distribution, dispensing to out-patients, in-patients and ambulatory patient-dispensing of ancillary and controlled substances, drug information center.

Unit III

Hospital Management: Budget preparation and implementation, hospital formulary, organization of drug store, purchase and inventory control, patient counselling, role of Pharmacist in community health care and education.

UNIT-IV

Records: Introduction to e-medicine, Basic aspects of drug storage, Prescription filling, drug profile, patient medication profile, cases on drug interaction, adverse reactions and idiosyncratic cases.

UNIT-V

Nuclear Pharmacy: Methods of handling Radioisotopes, Radio isotopes committee.

TEXT BOOKS

- 1 Hospital and Clinical Pharmacy by Pratibha Nand and Roop K.Khar
- 2 JS Quadry, Hospital Pharmacy.
- 3 Health Education and Community Pharmacy by N.S.Parmar
- 4 Drug store & Business management by Mohammed Ali & Jyoti
- 5 Gupta AK, Health Education and Community Pharmacy, CBS, Publ. and Distributors New Delhi

REFERENCES

1. Lippincott Williams and Wilkins, Remington Pharmaceutical Sciences.21st edition

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(A62003)PHARMACEUTICAL INORGANIC CHEMISTRY – II

Unit – I:

Gastro – Intestinal Agents: Introduction and classification

1. Acidifiers and antacids – definition, preparation, assay principle, limit tests and uses of following compounds:
Dilute hydrochloric acid, Sodium acid phosphate, Aluminium hydroxide gel, Dried aluminium hydroxide gel, Magnesium Oxide, Magnesium hydroxide, Magnesium Trisilicate.
2. Adsorbents and related drugs – definition, preparation, assay principle, limit Tests and uses of light kaolin, heavy kaolin and activated charcoal
3. Cathartics – Introduction and classification. definition, preparation, assay principle, limit tests and uses of magnesium sulphate, Sodium phosphate, Sodium potassium tartarate

Unit – II:

Topical Agents: Introduction and classification. Definition, preparation, assay principle, limit tests and uses of following compounds:

Astringents – zinc sulphate, calcium hydroxide, bismuth subcarbonate
Topical protectants – calamine, zinc stearate, talc, titanium dioxide.
Silicone polymers – Activated dimethicone
Antibacterial agents – Introduction and classification. KMnO_4 , AgNO_3 , Zinc undecylenate, Yellow Hgo

Unit – III:

Importance of Mineral Nutrients and Supplements. Definition, preparation, assay principle, limit tests, and uses of following compounds:

1. Haematinics – Introduction
Ferrous sulphate, ferrous fumarate, ferrous gluconate, ferric ammonium citrate, iron and dextrose injection
2. Halogen compounds – Iodine , Iodides
3. Introduction to dialysis: types, Haemo dialysis fluids

Unit – IV:

Introduction and classification of Pharmaceutical aids. definition, preparation, assay principle, limit tests, and uses of following compounds:

1. Excipients – Dicalcium phosphate, Magnesium stearate, Calcium carbonate
2. Suspending agents – Bentinite, Colloidal silica
3. Colorants – TiO_2 , Ferric Oxide

Unit – V:

Miscellaneous Agents: Introduction. Definition, preparation, assay principle, limit tests and uses of following compounds:

1. Antineoplastics – Cisplatin
2. Antidepressants – Li_2CO_3
3. Diagnostic Agents – Barium Sulphate
4. Surgical Aids – Plaster of Paris
5. Antirheumatic Agents – sodium auro thiomaleate
6. Antimalarial Parasiticide – Sodium Antimony gluconate
7. Anti thyroid agents – Potassium perchlorate

TEXT BOOKS

1. G.R. Chatwal, Pharmaceutical Chemistry – Inorganic, 5th edition, Vol – I, Mumbai; Himalaya Publishing House, 2011
2. A.H.Beckett and J.B.Stenlake, Practical pharmaceutical chemistry, 1st edition, Part-I, New Delhi; CBS Publishers and Distributors, 2005
3. P. Gundu Rao, pharmaceutical and Medicinal Inorganic chemistry, 1st edition, New Delhi; Vallabh Publications, 2008
4. Satya prakash, G.D.Tuli, S.K Basu, R.D. Madan, Advanced Inorganic Chemistry, 1st edition, Volume – I, S.Chand & Company LTD., 2010

REFERENCES

1. L.M. Atherden, Bentley and Driver's Textbook of Pharmaceutical Chemistry, London; Oxford University Press
2. Indian Pharmacopoeia 2010

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(A62004)PHARMACEUTICAL ORGANIC CHEMISTRY – II

UNIT – I

Alcohols: Nomenclature, classification, general methods of preparation, physical properties, hydrogen bonding, characteristic nucleophilic substitution reactions (replacement of -OH by -Cl), elimination reactions, and relative reactivities of 1^o, 2^o and 3^o alcohols.

UNIT – II

Ethers: Nomenclature, Williamson's synthesis, action of hydro iodic acid on ethers.

Phenols: Nomenclature, general methods of preparation, physical properties, acidity of phenols, stability of phenoxide ion, reactions of phenols, Kolbe-Schmidt reaction, Reimer-Tiemann Reaction.

UNIT – III

Carbonyl Compounds: Nomenclature, two important methods of preparation, polarity of carbonyl group, relative reactivities of carbonyl compounds, nucleophilic addition and addition-elimination reactions, oxidation-reduction reactions, aldol condensation, Cannizzaro reaction, Perkins reaction.

UNIT – IV

Carboxylic acids: Nomenclature, intermolecular association, stability of carboxylate anion, two important methods of preparation, decarboxylation, functional groups reactions, reduction of carboxylic acids.

Acid derivatives: (acid chlorides, anhydrides, esters and amides). Nomenclature, reactions like hydrolysis, reduction of esters and amides, Hofmann's degradation of amides.

UNIT – V

Nitro compounds: Nomenclature, acidity of nitro compounds containing α - hydrogens, reductive reactions of aromatic nitro compounds.

Amines: Nomenclature, basicity of amines, classification, relative reactivity, Hinsberg method of separation, acylation reactions. Diazotization and reactions of diazonium salts.

TEXT BOOKS

1. Morrison TR, Boyd RN, Bhattacharjee SK. Organic chemistry. 7th Ed. New Delhi: Pearson Prentice hall of India private limited; 2011.
2. Arun bhal, Bhal BS. Advanced Organic chemistry. New Delhi: S.Chand & Company Ltd; 2010
3. Agarwal OP. Reactions and Reagents in Organic Chemistry. 43rd Ed. Meerut: Goel Publishing House; 2008.

REFERENCES

1. Finar IL. The Fundamentals Principles of Organic Chemistry. 6th Ed. New Delhi: Vol.I Pearson Education Ltd; 2009.
2. Jerry March. Advanced Organic Chemistry. 6th Ed. New Delhi: John Wiley & Sons Publishers; 2007

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(A62005) ANATOMY, PHYSIOLOGY AND HEALTH EDUCATION

UNIT-I**Nervous system:**

Brief Introduction of central nervous system and peripheral nervous systems, Structure and specialized functions of brain and spinal cord. Reflex actions, Neuro- chemical transmission in ANS and PNS.

UNIT -II

Concepts of health & disease, disease causing agents and prevention of disease. Balanced diet and nutritional deficiency disorders.

UNIT -III**Demography and family planning:**

Demography cycle, population problem family planning and various contraceptive methods. Medical termination of pregnancy.

UNIT -IV

First Aid: Emergency treatment of shock, snakebites, burns, poisoning, fractures and resuscitation methods.

UNIT -V

Brief outline of communicable diseases, their causative agents, modes of transmission and prevention (chicken pox, measles, influenza, diphtheria whooping cough, tuberculosis, poliomyelitis, hepatitis, cholera, typhoid, food poisoning, helmenthiasis, malaria, filariasis, rabies, trachoma, tetanus, leprosy, syphilis, gonnorrhoea, and Aids).

TEXT BOOKS

- 1) Gerard J Tortora, Bryan H Derrickson. Principles of Anatomy and Physiology. Vol -1&2 .12th Ed New Jersey: John Wiley and Sons Inc; 2009.
- 2) Anne Waugh, Allison Grant, Ross & Willson, Text Book of Human Anatomy and physiology in health and illness. 11th Ed. UK: Elsevier Ltd; 2010.
- 3) Derasari & Gandhi's. Elements of Human Anatomy Physiology And Health Education. 21st Ed. Ahmedabad: B.S. Shah Prakashan; 2010.

REFERENCES

- 1) K. Sembulingam and Prema Sembulingam, Essentials of Medical Physiology, 3rd Ed .New Delhi: Jaypee Bros Medical publishers Ltd; 2004.
- 2) Ashok .k.Gupta. Hand Book of Health Education and Community Pharmacy. New Delhi: CBS Publishers; 2010.

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(A62006) English – II

1. INTRODUCTION:

In view of the growing importance of English as a tool for global communication and the consequent emphasis on training students to acquire communicative competence, the syllabus has been designed to develop linguistic and communicative competencies of Engineering students. The prescribed books and the exercises are meant to serve broadly as students' hand books.

In the English classes, the focus should be on the skills of reading, writing, listening and speaking and for this the teachers should use the text prescribed for detailed study. For example, the students should be encouraged to read the texts/selected paragraphs silently. The teachers can ask comprehension questions to stimulate discussion and based on the discussions students can be made to write short paragraphs/essays etc. The text for non-detailed study is for extensive reading/reading for pleasure. Hence, it is suggested that they read it on their own the topics selected for discussion in the class. The time should be utilized for working out the exercises given after each section, as also for supplementing the exercises with authentic materials of a similar kind for example, from newspaper articles, advertisements, promotional material etc.. However, the stress in this syllabus is on skill development, fostering ideas and practice of language skills.

2. OBJECTIVES:

- a. To improve the language proficiency of the students in English with emphasis on LSRW skills.
- b. To equip the students to study academic subjects more effectively using the theoretical and practical components of the English syllabus.
- c. To develop the study skills and communication skills in formal and informal situations.

LEARNING OUTCOMES:

1. Usage of English Language, written and spoken.
2. Enrichment of comprehension and fluency
3. Gaining confidence in using language in verbal situations.

SYLLABUS:

Listening Skills:

Objectives

1. To enable students to develop their listening skill so that they may appreciate its role in the LSRW skills approach to language and improve their pronunciation
2. To equip students with necessary training in listening so that they can comprehend the speech of people of different backgrounds and regions

Students should be given practice in listening to the sounds of the language to be able to recognise them, to distinguish between them to mark stress and recognise and use the right intonation in sentences.

- Listening for general content
- Listening to fill up information
- Intensive listening
- Listening for specific information

Speaking Skills:

Objectives

1. To make students aware of the role of speaking in English and its contribution to their success.
2. To enable students to express themselves fluently and appropriately in social and professional contexts.
 - Oral practice
 - Describing objects/situations/people
 - Role play – Individual/Group activities (Using exercises from the five units of the prescribed text: **Skills Annexe - Functional English for Success**)
 - Just A Minute(JAM) Sessions.

Reading Skills:

Objectives

1. To develop an awareness in the students about the significance of silent reading and comprehension.
2. To develop the ability of students to guess the meanings of words from context and grasp the overall message of the text, draw inferences etc.
 - Skimming the text
 - Understanding the gist of an argument
 - Identifying the topic sentence
 - Inferring lexical and contextual meaning
 - Understanding discourse features
 - Scanning
 - Recognizing coherence/sequencing of sentences

NOTE : The students will be trained in reading skills using the prescribed text for detailed study.

They will be examined in reading and answering questions using ‘unseen’ passages which may be taken from authentic texts, such as magazines/newspaper articles.

Writing Skills :

Objectives

1. To develop an awareness in the students about writing as an exact and formal skill
2. To equip them with the components of different forms of writing, beginning with the lower order ones.
 - Writing sentences
 - Use of appropriate vocabulary
 - Paragraph writing
 - Coherence and cohesiveness
 - Narration / description
 - Note Making
 - Formal and informal letter writing
 - Describing graphs using expressions of comparison

UNIT-I

Chapter 1: ' Leela's Friend ' by R.K. Narayan from "Epitome of Wisdom", Published by Maruthi Publications, Hyderabad	2 hrs
G – Present Tense	2
V – Synonyms and Antonyms	2

UNIT-II

Chapter 2: ' Human Values and Professional Ethics ' from "Skills Annexe -Functional English for Success" Published by Orient Black Swan, Hyderabad	2 hrs
L -Listening for specific details and information	1
S- Narrating, expressing opinions and telephone interactions	1
R -Reading for specific details and information	1
W- Writing formal letters and CVs	1

UNIT-III

Chapter 3: ' The Convocation Speech ' by N.R. Narayanmurthy' from "Epitome of Wisdom", Published by Maruthi Publications, Hyderabad	2 hrs
G- Past and future tenses	2
V- Vocabulary - idioms and Phrasal verbs	2

UNIT-IV

Chapter 4: ' Sports and Health ' from "Skills Annexe -Functional English for Success" Published by Orient Black Swan, Hyderabad	2 hrs
L- Critical Listening and Listening for speaker's tone/ attitude	1
S- Group discussion and Making presentations	1
R- Critical reading, reading for reference	1
W-Project proposals; Technical reports, Project Reports and Research Papers	1

UNIT-V

Chapter5: ' The Secret of Work ' from "Epitome of Wisdom", Published by Maruthi Publications Hyderabad.	2 hrs
G- Adjectives, Prepositions and Concord	2
V- Collocations and Technical Vocabulary	2

TEXTBOOKS :**For Detailed study:**

First Textbook: "Skills Annexe -Functional English for Success", Published by Orient Black Swan, Hyderabad

For Non-detailed study:

Second text book "Epitome of Wisdom", Published by Maruthi Publications, Guntur

REFERENCES :

1. Contemporary English Grammar Structures and Composition by David Green, MacMillan Publishers, New Delhi 2010.
2. Innovate with English: A Course in English for Engineering Students, edited by T Samson, Foundation Books.
3. English Grammar Practice, Raj N Bakshi, Orient Longman.
4. Technical Communication by Daniel Riordan. 2011. Cengage Publications. New Delhi.
5. Effective English, edited by E Suresh Kumar, A RamaKrishna Rao, P Sreehari, Published by Pearson
6. Handbook of English Grammar& Usage, Mark Lester and Larry Beason, Tata Mc Graw – Hill.
7. Spoken English, R.K. Bansal & JB Harrison, Orient Longman.
8. Technical Communication, Meenakshi Raman, Oxford University Press
9. Objective English Edgar Thorpe & Showick Thorpe, Pearson Education
10. Grammar Games, Renuvolcuri Mario, Cambridge University Press.
11. Murphy’s English Grammar with CD, Murphy, Cambridge University Press.
12. Everyday Dialogues in English, Robert J. Dixson, Prentice Hall India Pvt Ltd.,
13. ABC of Common Errors Nigel D Turton, Mac Millan Publishers.
14. Basic Vocabulary Edgar Thorpe & Showick Thorpe, Pearson Education
15. Effective Technical Communication, M Ashraf Rizvi, Tata Mc Graw –Hill.
16. An Interactive Grammar of Modern English, Shivendra K. Verma and Hemlatha Nagarajan , Frank Bros & CO
17. A Communicative Grammar of English, Geoffrey Leech, Jan Svartvik, Pearson Education
18. Enrich your English, Thakur K B P Sinha, Vijay Nicole Imprints Pvt Ltd.,
19. A Grammar Book for You And I, C. Edward Good, MacMillan Publishers

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(A62201) DISPENSING AND HOSPITAL PHARMACY LAB

1. Dispensing of prescriptions falling under the categories (At least two experiments for each category):

Syrups, Suspensions, Emulsions, Ointments, Creams, Jellies, Pastes, Suppositories, Aromatic waters, Mixtures, Linctus, Elixir, Enemas, Collodions, Liniments, Lotions, Inhalations, Insufflations, Paints
2. Preparation of Pharmacopoeial extracts and galenical products utilizing various methods of extraction.
3. Categorization and storage of pharmaceutical products based on legal requirements of labelling and storage.
4. Project report on visit to the community pharmacy for Counseling on the rational use of drugs and aspects of health care.
5. Identification of various types of incompatibilities in a prescription, correlation thereof and dispensing of such prescriptions.
6. Dispensing procedures involving pharmaceutical calculations, pricing of prescriptions and dosage calculations for pediatric and geriatric patients.
7. Dispensing of prescriptions involving adjustment of tonicity.

REFERENCES

1. Dispensing and Hospital Pharmacy Lab manual by Sanmathi & Mehta
2. Cooper & Gunns Dispensing Pharmacy, CBS, Publ. and Distributors New Delhi.

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(A62202) PHARMACEUTICAL INORGANIC CHEMISTRY LAB – II

List of Experiments:

- 1) Preparation and purification of Boric acid.
- 2) Preparation and purification of Sodium citrate.
- 3) Preparation and purification of Potash alum.
- 4) Preparation and purification of Magnesium stearate.
- 5) Assay of sodium bicarbonate and assay of Boric acid (Neutralization).
- 6) Assay of Calcium gluconate (or) any calcium compounds (Complexometry).
- 7) Assay of Copper sulphate (Redox titration).
- 8) Assay of Sodium acetate (Non-aqueous titration).
- 9) Assay of Ferrous sulphate (Oxidation-reduction / Redox titration).
- 10) Exercises related to assay by Gravimetric method.

REFERENCES

1. Indian Pharmacopoeia - 2010
2. Vogel's Qualitative Analysis
3. Pharmaceutical Inorganic Chemistry, Subba Rao

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(A62203) PHARMACEUTICAL ORGANIC CHEMISTRY LAB – II

I. Preparation of organic compounds

1. Benzoylation : Preparation of Benzanilide
2. Extensive nuclear substitution : Preparation of Tribromoaniline from Aniline
3. Etherification : Preparation of β -Naphthyl methyl ether from β -Naphthol
4. Nuclear Nitration : Preparation of m-Dinitrobenzene from nitrobenzene
5. Oxidation : Preparation of Benzoic acid from Benzyl chloride
6. Esterification : Preparation of n-Butylacetate from n-Butylalcohol
7. α -Halogenation : Preparation of Iodoform from Oxidation of Acetone

II. Systematic qualitative Analysis (Identification) of Mono functional Organic Compounds

(Avoid water-soluble compounds and compounds containing more than one functional group; at least six individual compounds to be analyzed).

REFERENCES

1. Tatchell AR, Furniss BS, Hannaford AJ, Smith PWG. Vogel's Textbook of Practical Organic Chemistry. 5th Ed. New Delhi: Pearson Education Ltd; 2008.
2. Bansal RK. Laboratory Manual of Organic Chemistry. 5th Ed. New Delhi: New Age International (P) Ltd; 2010.
3. Mann FG, Saunders BC. Practical Organic Chemistry. : 4th Ed. New Delhi: Orient Longman Limited; 2001.

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(A62204) English Language Communication Skills Lab – II

The **Language Lab** focuses on the production and practice of sounds of language and familiarises the students with the use of English in everyday situations and contexts.

Objectives

1. To facilitate computer-aided multi-media instruction enabling individualized and independent language learning
2. To sensitise the students to the nuances of English speech sounds, word accent, intonation and rhythm
3. To bring about a consistent accent and intelligibility in their pronunciation of English by providing an opportunity for practice in speaking
4. To improve the fluency in spoken English and neutralize mother tongue influence
5. To train students to use language appropriately for interviews, group discussion and public speaking

Learning Outcomes:

1. Better Understanding of nuances of language through audio- visual experience and group activities
2. .Neutralization of accent for intelligibility
3. Speaking with clarity and confidence thereby enhancing employability skills of the students

Syllabus: English Language Communication Skills Lab shall have two parts:

a. Computer Assisted Language Learning (CALL) Lab

b. Interactive Communication Skills (ICS) Lab

The following course content is prescribed for the English Language Communication Skills Lab

Exercise-I

CALL Lab: Minimal Pairs

Word accent and Stress Shifts
Listening Comprehension

Exercise-II

ICS Lab: Descriptions- Narrations- Giving Directions and Guidelines

Question Tags and One-Word Substitutes

Concord (Subject in agreement with verb) and Words often misspelt- confused/misused

Exercise-III

CALL Lab: Intonation and Common Errors in Pronunciation.-Neutralization of Mother Tongue Influence and Conversation Practice

Exercise-IV

ICS Lab: Extempore- Public Speaking

Active and Passive Voice,
Common Errors in English,
Idioms and Phrases

Exercise-V

ICS Lab: Information Transfer

Oral Presentation Skills
Reading Comprehension
Job Application with Resume preparation.

Minimum Requirement of infra structural facilities for ELCS Lab:

1. Computer Assisted Language Learning (CALL) Lab:

The Computer aided Language Lab for 40 students with 40 systems, one master console, LAN facility and English language software for self- study by learners.

System Requirement (Hardware component):

Computer network with Lan with minimum 60 multimedia systems with the following specifications:

- i) P – IV Processor
- a) Speed – 2.8 GHZ
- b) RAM – 512 MB Minimum
- c) Hard Disk – 80 GB
- ii) Headphones of High quality

2. Interactive Communication Skills (ICS) Lab :

The Interactive Communication Skills Lab: A Spacious room with movable chairs and audio-visual aids with a Public Address System, a T. V., a digital stereo –audio & video system and camcorder etc.

Books Suggested for English Language Lab Library (to be located within the lab in addition to the CDs of the text book which are loaded on the systems):

1. Suresh Kumar, E. & Sreehari, P. 2009. A Handbook for English Language Laboratories. New Delhi: Foundation
2. **Strengthen Your Steps** - Dr. M. Hari Prasad and others, Maruthi Publications
3. Speaking English Effectively 2nd Edition by Krishna Mohan and N. P. Singh, 2011. Macmillan Publishers India Ltd. Delhi.
4. Sasi Kumar, V & Dhamija, P.V. How to Prepare for Group Discussion and Interviews. Tata McGraw Hill
5. Hancock, M. 2009. English Pronunciation in Use. Intermediate. Cambridge: CUP
6. Spoken English: A Manual of Speech and Phonetics by R. K. Bansal & J. B. Harrison. 2013. Orient Blackswan. Hyderabad.
7. Hewings, M. 2009. English Pronunciation in Use. Advanced. Cambridge: CUP
8. Marks, J. 2009. English Pronunciation in Use. Elementary. Cambridge: CUP

9. Nambiar, K.C. 2011. *Speaking Accurately. A Course in International Communication*. New Delhi: Foundation
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**ANURAG GROUP OF INSTITUTIONS
(AUTONOMOUS)**

B.Pharmacy I year II Sem

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(A62205) Remedial Biology Lab

1. Care and uses of microscope
2. Gross identification of slides of structure and life cycle of plants/animals mentioned in theory.
3. Morphology of plant parts indicated in theory.
4. Preparation, Microscopic Examination of stem, root and leaf of mono and dicot leaves.
5. Structure of human parasites and insects mentioned in the theory with the help of specimens.