

PANDIT DEENDAYAL ENERGY UNIVERSITY

NAAC Accredited with 'A++' grade with CGPA of 3.52 out of
4.00



B. Sc. (Physics/Chemistry/Mathematics)

Academic Rules w.e.f. 2023-24

Department of Physics / Chemistry / Mathematics

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PANDIT DEENDAYAL ENERGY UNIVERSITY
School of Energy Technology/School of Technology
ACADEMIC RULES FOR FOUR YEAR UG (B.Sc. (Hons.)) PROGRAM 2023 Onwards

1. SEMESTER SYSTEM

An academic year consists of two semester's viz. the Autumn semester which is generally from July to November & the Spring semester which is generally from December to April. During the teaching break period Internship: Urban/Rural Internship, International Exposure or Workshops at leading organizations in India may be arranged.

2. ELIGIBILITY AND ADMISSION CRITERIA

The applicants should have a minimum academic qualification of 10+2 or its equivalent pattern in India is eligible to fill up the form at SOET/SOT and should submit a separate application in the prescribed Application Form. The admissions are offered on the bases of the performance of a student in the 12th board exam (Physics/Chemistry/Mathematics/Biology theory marks) and personal interview. School of Technology encourages multi-disciplinary studies.

International admissions at SOET/SOT are conducted as per EdCIL, Govt. of India rules.

- The students who seek admission to B.Sc. (Hons.) should have passed 12th standard examination or equivalent from the Science stream or with a minimum any two of the following subjects from Mathematics, Physics, Chemistry and Biology.
- The students seeking admission at SOET/SOT must have passed any of the following qualifying examinations; with English as one of the subjects.
- The +2 level examination in the 10+2 pattern of examination of any recognized Central/State Board of Secondary Education, including Central Board of Secondary Education, New Delhi, and Council for Indian School Certificate Examination, New Delhi.
- Intermediate Science or Two-year Pre-University Examination conducted by a recognized Board/University.
- Final Examination of the two-year course of the Joint Services Wing of the National Defense Academy.
- General Certificate Education (GCE) Examination (London/Cambridge/Sri Lanka) at the Advanced (A) level.
- High School Certificate Examination of Cambridge University
- International Baccalaureate Diploma Programme.
- Any Public School/Board/University Examination in India or foreign countries recognized by the Association of Indian Universities as equivalent to the 10+2 system.
- Senior Secondary School Examination conducted by the National Open School with a minimum of five subjects.
- H.S.C. Vocational Examination.

3. REGISTRATION

Registration at the beginning of each semester, on the prescribed dates announced in the academic calendar, is mandatory for every student until she/he completes the program. No student is allowed to attend a course without registration in that course. In case of compelling reasons, the School provides for Late Registration, whereby a student is allowed to register after the last date of registration on payment of a prescribed fine. The student registers for course(s) during a given semester, based on the program as prescribed in the Curriculum.

Generally, students are advised to consult their faculty advisors before selecting the courses of their choice and once the student fills up the registration form, change in the courses is discouraged. However, with the mutual agreement of the Faculty and with the approval of the Academic Coordinator, the student may change the elective within a week after registration. Registration is to be done in person on a particular day as per the academic calendar announcement.

Only those students can attend the academic sessions as per the class timetable of a semester, who fulfil the eligibility criteria for admission to the respective semester. The semester fees paid by a student shall be valid for admission/registration to the respective semester only upon the fulfilment of the eligibility criteria for the same.

3.1 PROCEDURE FOR REGISTRATION

Registration is done either in person or online as the case may be, normally on the first day of each semester, for which the schedule is announced in advance. Students having outstanding dues to the School or hostel will not be permitted to register; if a student fails to register during any semester, his/her studentship is liable to be cancelled.

4. CURRICULUM - COURSES AND CREDITS

The program has a prescribed course structure, known as the Curriculum of Study, that specifies the course titles and content offered in each semester. The types of courses specified in the Curriculum:

1. Courses having theory only
2. Courses having theory and tutorials
3. Courses having theory and practical
4. Courses have a theory, tutorials and practical
5. Laboratory courses

The credit (C) for a course is dependent on the number of hours of instruction per week in that course and is obtained by using a multiplier of one (1) for lecture hours, one (1) for tutorial hours, and a half (1/2) for laboratory hours. Thus, for example, a course having the structure of two lectures and one tutorial per week carries a credit of 3 and is designated as **2(L)-1(T)-0(P) = 3(C) or simply as 2-1-0 = 3.**

Separate credits are specified for Urban/Rural/internship related to B.Sc. (Hons.) students,

Seminar, Project, Viva-voce, Lab Projects, Dissertation, etc. However, Credits for Internships are not counted for CPI. Weekend activities are non-credit courses but participation is mandatory for all students.

Seminar is a course requirement wherein, under the guidance of a faculty member, a student is expected to carry out an in-depth study in a specialized area through study, literature survey, understanding different aspects of the problem, and writing a report. A student is required to present the seminar report before a panel is constituted for the purpose.

4.1 CREDITS FOR FOUR YEAR B.Sc. (HONS.) PROGRAMME

- Eight Semesters: 174 Credits
- Undergraduate Research Dissertation: 15 Credits (mandatory)
- Minimum Credits required to earn the Degree: 189
- Corporate Internship: 03 Credits (Voluntary)
- International Exposure Program: 03 Credits (Voluntary)

5 EVALUATION SYSTEM

- To assess the academic performance of students, a continuous evaluation system is followed. At the end of each semester, each student is awarded a letter grade in each of her/his courses by the concerned instructor, based on her/his performance in the mid-semester examination, end-semester examination, quizzes, tests, assignments, tutorials, laboratory work, seminars, projects, etc., and also on the regularity of attendance in classes.
- The assessment in a laboratory course is based on turn-to-turn supervision of the student's work, performance in *viva voce* examinations, and group discussions, the quality of work as prescribed through laboratory journals and an end-semester test that contains an experiment and/ or a written examination. The teacher will announce the mode of evaluation and distribution of marks at the beginning of the course. It is obligatory to maintain a laboratory journal as prescribed by the course instructor. End-semester practical examinations for laboratory courses are normally held at the end of the term before the final theory examination.
- The percentage allocation for evaluating a Theory course will generally remain as given below:***
 - 25% for Mid Semester examination, 50% for the End Semester, and 25% for the Internal Assessment like Quizzes, Tests, Assignment, Attendance, Projects, Viva, Responsiveness in the classroom, etc. but at least three components should be used to decide the internal assessment marks.

The percentage allocation for evaluating a Practical course will generally remain as given below:

- 50% for the Laboratory Work and 50% for the Laboratory related Examination.
- The student's evaluation for Theory & Practical will be carried out separately wherever Theory &/or Practical components are involved in the teaching scheme in a course/subject, wherein the Theory Head Grade will include the performance in the mid-semester exam, end

semester exam, class quiz, assignments & such other components as the case may be. Similarly, the Practical Head Grade will include the performance in the practical exams, term work, lab assignments, Lab quizzes & such other components as the case may be.

- v. If a student remains absent in the mid-semester examination due to valid reasons, she/he shall have to apply to the faculty members along with the evidence in support of her/his plea to appear in the re-mid-semester examination during the same semester.
- vi. For the students who failed a course, the resubmission and thereupon reevaluation of the assignment under the component of internal assessment will be permissible at the subsequent re-examinations.
- vii. If a student remains absent in any component of evaluations other than the End Sem. examination, her/his final grade will correspond to the total of weighted marks s/he obtained in the remaining components of evaluation s/he appeared at.
- viii. The value of the final percentage marks after considering all the components of a course examination will be calculated in the integer value which is next to the fraction-point value e.g. 43.3 or 43.7 will be considered as 44 by the examiner.
- ix. Where a student fails in a course examination, he may be graced by not more than 3% marks in the final overall result of the course to pass it. A minimum requirement if any to pass in a component/s of a course evaluation shall have to be fulfilled without gracing.

The above-referred scopes for gracing and calculating the marks in terms of the next integer apply only to the final/overall percentage result of a course examination.

6 LETTER GRADES

Each course is assigned a numerical weightage termed as credits for that particular course. A letter grade is awarded to students as the final evaluation in each course, and each letter grade carries numerical points, known as grade points, as shown below:

Marks Obtained	Letter Grade	Grade Point
≥80	O (Outstanding)	10
70-79	A+ (Excellent)	9
60-69	A (Very Good)	8
55-59	B+ (Good)	7
50-54	B (Above Average)	6
45-49	C (Average)	5
40-44	P (Pass)	4
<40	F (Fail)	0
	NA/ Ab (Absent)	0

To pass a course examination it is required to obtain an overall minimum 40% of the maximum marks of the respective course examination. However to pass a theory course, it is required to obtain a minimum of 35% of the maximum marks separately in its End Semester Examination component, provided the total overall obtained is the minimum of 40% of the maximum marks

for the course.

A student passes the course if she/he gets any grade in the range of **O to P** but fails if she/he gets the grade **F or NA/Ab**. A student is awarded a fail grade **F** if her/his performance in the course is poor. She/he is eligible for re-examinations as per the timetable announcement.

The grade NA/Ab is assigned to the students absent in the examination for any reason, as a mark of absence.

7. EXAMINATIONS

- i. At the end of every Odd/Even semester, there will be examinations of all eight semesters together, i.e. the end semester examination of the *current Odd/Even* semesters and the reexamination of the *previous Even/Odd* semesters. Thus, there would be one reexamination for the eligible students who failed/not appeared in the End Semester exam. The examinations will be held on working days &/or also on holidays.
- ii. Registration, Examination etc. for re-examination is to be carried out as per the academic calendar/separate notice, and the evaluation is to be carried out in the same manner as done in the regular semester courses.
- iii. Generally, the examination question paper will be 100 marks for 3 Hours duration and 50 marks for 2 Hours duration.
- iv. Students are not permitted to re-register or take re-examinations for courses in which they have already obtained a passing grade or **P**, **except for particular provisions mentioned if any in the rules.**
- v. The number of attempts a student takes to pass the courses shall appear on the grade sheet/transcript.
- vi. A student must complete all the experiments in a Lab/Practical course as a requirement to appear in the practical examination at the respective end of Semester/reexaminations.
- vii. If a student has course-backlog/s and wants to improve her/his mid-semester score can appear along with the respective regular students during their mid-semester examinations of the same syllabus by applying for it to the respective School-Admin during the week previous to the exam, subject to the nullification of the previous mid-semester score of the student in the respective course/s. Rs. 500/- shall have to be paid by the student as the fees to reappear in the mid-semester examination irrespective of the no. of courses-exam of a semester to re-appear. The School-Admin shall inform the concerned course/coordinator for such reappearance of the student/s.
- viii. The backlog of students opting for the repeat of the Mid Semester examination shall also have to appear at the subsequent end of semester/reexamination to pass the respective course, as usual.

7.1 RE-EVALUATION DUE TO ILLNESS OR ACCIDENT IN CASE OF MISSING QUIZ/MID SEMESTER EXAMINATION

The students remaining absent in the Mid Semester Examination/Internal assessment while

pursuing a semester shall have to appear in the re-test for the same.

If a student misses appearing at any component of evaluation other than the End Semester Examination of a course due to personal illness or accident, or death or serious illness of Parent or Guardian; the student shall have to apply for the re- test along with the medical certificate duly approved by the Medical Officer of the University within seven working days to the completion of the respective examination referred herein.

The students not appearing at any of the End Semester/Re-examinations are required to submit a letter explaining the reason of absence through their parents, to the respective School-Admin. In case of not submit such a n explanation properly, such students will not be permitted to appear at the subsequent examinations to pass their respective course/s.

7.2 Semester Performance Index (SPI) and Cumulative Performance Index(CPI)s

Based on the Grades and their numerical equivalents, the **Semester Performance Index (SPI) and Cumulative Performance Index (CPI)** of a student are calculated at the end of each semester. They are calculated up to the second decimal.

- (i) **SPI:** The performance of a student at the end of every semester is evaluated in terms of the weighted average of grade points secured in all the courses for which the student registers in the semester, and is known as SPI.
- (ii) **CPI:** It indicates the overall academic performance of a student in all the courses registered up to and including the last completed semester. It is computed in the same manner as the SPI, considering all the courses.

$$SPI = \frac{\sum_{i=1}^n C_i \cdot G_i}{\sum_{i=1}^n C_i}$$

Where,

C_i = Credit for the course i

G_i = Grade points obtained for the course i (0=10, A+=9, A=8, etc.)
 n = number of courses registered in a semester

$$CPI = \frac{\sum_{k=1}^m S_k \cdot C_k}{\sum_{k=1}^m C_k}$$

Where,

m = total number of semesters under consideration

C_k = total number of credits registered for during a particular semester
 S_k = SPI of the k^{th} semester

Example: Suppose a student earns 210 Grade Points (SPI of 6.55) in semester 1 of total

registered credit 32, and if she/he obtains the following grades in semester2 of total registered credit 34; her/his SPI and CPI calculation is as follows: Course 1 (credit=4): B+, Course 2 (credit=7): B+, Course 3 (credit=5): B+ Course 4(credit=5): C, Course 5 (credit=6): A+, Course 6 (credit=5): C, Course 7 (credit=2):B+. Thus the Grade Point earned in semester 2 is 230.

$$SPI = (4 \times 7 + 7 \times 7 + 5 \times 7 + 5 \times 5 + 6 \times 9 + 5 \times 5 + 2 \times 7) / (4 + 7 + 5 + 5 + 6 + 5 + 2) = 230/34 = 6.76$$

$$CPI = (230 + 210) / (34 + 32) = 6.67$$

A separate statement of Grades will be issued to the students for each examination in which s/he appears fully/partially.

7.3 IMPLICATIONS OF A FAIL GRADE ON CPI

CPI reflects all courses studied by the student including the courses if any wherein s/he has failed.

7.4 POLICIES ON DISCLOSING THE EVALUATED END-SEMESTER ANSWERBOOKS AND PERIOD OF RETENTION

The students can see their evaluated answer scripts including the assignments and other documents related to the evaluation for all examinations with the Course coordinator on the date/s specified by the course coordinator (faculty/teacher) or as specified in the Academic Calendar as the case may be.

Thereafter no claim regarding it shall be grantable. The evaluated answer scripts of every examination will be preserved by the teacher for a minimum period of one year from the date of the examination.

7.5 TREATMENT OF MALPRACTICE / UNFAIR MEANS

The students found/reported for malpractice/using unfair means in an Examination/Re-examination/Assessment will be called in front of a Special Committee constituted for the purpose, which will recommend to the Director, it's decision about penalizing the concerned students. The Director's decision in such matters shall be final and binding.

7.6 ELIGIBILITY FOR ADMISSION TO THE NEXT SEMESTER

To pass a theory subject/course a student must have secured 35% marks in the End semester (Theory) Examination, provided 40% minimum overall 40% marks along all evaluation components.

Semester	Conditions
II	-

III	Must not have failed in more than seven courses of I and II Semester, combined.
IV	Must not have failed in more than seven courses of I, II and III Semester combined.
V	Must have passed in all courses of Semester-I. Must not have failed in more than seven courses of II, III and IVSemester combined.
VI	Must have passed in all courses of Semester I and II. Must not have failed in more than seven courses of III, IV and VSemester combined.
VII	Must have passed all courses of Semesters- I, II and III. Must not have failed in more than seven courses of IV, V and VISemester combined.
VIII	Must have passed all courses of I, II, III and IV Semester and Must not have failed in more than seven courses of V, VI and VIISemester combined.

The conditions regarding the no. of F grades are inclusive of the NA/Ab grade.

If a student having one or more backlogs in a semester wants to repeat a semester completely can be permitted upon the approval of the School Director or faculty/Staff nominated by her/him; subject to the nullification of all the previous academic data of the semester to be repeated. Rs. 20,000/- shall have to be paid by the student as the tuition fees for repeating a semester.

If a student is re-registering/repeating a semester along with junior batch students, shall then have to follow the academic rules of the respective junior batch students.

The students who have not been able to pass the concerned semester/s even upon its re-examination/s and consequently further if they are about to lose their one more year for not getting admitted in the respective higher semester (e.g.* fifth semester) may be permitted to admit into the same upon her/his request in the prescribed format, with the condition that they have to pass all the concerned previous semester/s and to fulfil all other relevant conditions by the end of the semester in which the admission is sought, upon appearing at the routine re-examinations as scheduled in the academic calendar otherwise she/he shall not be eligible to move into the further higher semester (e.g.* sixth semester).

8. PERFORMANCE REQUIREMENT

8.1 MAXIMUM PERIOD FOR COMPLETION OF PROGRAMME

In any case, a student must fulfil the requirements of the B.Sc. (Hons.) degree within the

maximum period of six years, excluding withdrawal in exceptional circumstances; failing to which, her/his case will be referred to the Academic Council for consideration.

8.2 AWARD OF DEGREE

For the award of the B.Sc. (Hons.) degree, a student must fulfil the following requirements:

- I. The student should have registered in and passed all the prescribed courses of the semester I to Semester VIII in the Curriculum, within the maximum period of completion of the programme.
- II. The student must have her/his CPI that is equal to or more than 5.00.
- III. The student should have satisfactorily fulfilled other academic requirements such as Rural/Urban Internships, as specified by the School from time to time.
- IV. The student should have paid all the University dues.
- V. The student should have no pending case of indiscipline against him.

Although CPI will be shown in the semester grade reports and transcript, the final degree certificate will not mention any class. A CPI of 6.5 or above is considered as First Class and indicated accordingly in the transcript.

The Grade to Percentage conversion formula is given below

$$\text{PERCENTAGE} = \frac{(\text{CPI} - 0.5)}{0.1}$$

MINIMUM CPI FOR AWARD OF DEGREE

At the end of the eighth semester, the minimum CPI required for graduation in B.Sc. (Hons.) is 5.0.

The students who passed all courses of the programme but not earned a minimum 5.0 CPI can reappear at the ongoing exams in theory course/s to earn a minimum 5.0 CPI to become eligible for the award of the degree. For such students the actual grade obtained by them upon reappearing in the examinations shall be the final grades and the previous grades shall be null & void.

8.3 STUDENTS WITH F GRADE IN COURSES

Students with F/NA/Ab Grades are required to register in person for Re-Examination. They should regularly meet and seek advice from the Faculty Adviser. Such students should continuously be in touch with parents about their performance.

9. FACULTY ADVISER

On joining the School, every student is assigned to a Faculty Adviser. Students are expected to consult the Faculty Adviser on matters relating to their academic performance and the courses they may take in various semesters. The role of the Faculty Adviser is to extend guidance to students, enabling them to complete their courses of study smoothly and satisfactorily. **The Faculty Adviser is the person whom the Parents/ Guardians should contact for performance-related issues in their ward.**

The specific role of Faculty Adviser includes:

- Guidance about the rules and regulations governing the courses of study;
- Registration of students for courses, within the scope of the regulations.
- Special attention to weak students, including making a revised plan of study for weak/ bright students based on their academic performance.
- Guidance and liaison with Parents of students for their performances.
- Emotional and adjustment issues.

ACADEMIC CALENDAR

All academic activities of the School are carried out by the annual Academic Calendar declared at the beginning of the academic year, which is made available to all in print and/ or electronic form.

10. CONDUCT AND DISCIPLINE**11.1 ATTENDANCE**

Attendance in classes and laboratories is compulsory and will be monitored. Faculty members shall adopt appropriate measures to regulate attendance, penalize absence, and ensure the smooth and undisturbed process of learning. A student with less than 80% attendance due to whatsoever reason, including medical grounds and participation in extracurricular activities, in a course will be barred by a concerned faculty member from appearing in his course in the end-semester examination and given **F/NA** grade. The concerned faculty member shall notify you in this regard.

Concerning the present rule for a minimum 80% attendance requirement for appearing in the end-semester examination, the respective faculty members are authorized by the University in condoning the absence of a student to an extent of 10% for his/her involvement under the faculty mentorship in organizing the institutional activities &/or for institutional representation outside the campus. For getting such condonation such a student shall have to apply to the faculty members soon after resuming *from such activity* along with the evidence in support of his/her plea.

However a student having less than 50% overall attendance in a semester shall have to repeat the semester.

It is to be noted that only those students can attend the academic sessions as per the class timetable of a semester who fulfill the eligibility criteria for admission to the respective semester.

11.2 GENERAL INSTRUCTION

- a) The University attaches the utmost importance to strict integrity and honesty in all segments of academic work.
- b) Any form of dishonesty including attempts to copy or help others copy in any manner is strictly prohibited. Unless specified otherwise by the teacher concerned, students must not collaborate/syndicate in any manner in the completion of home assignments and projects.
- c) Canvassing for grades is strictly prohibited.
- d) Penalty for breach of academic discipline includes expulsion from the University.
- e) Marking proxy attendance for others or having attendance marked by others will attract severe punishment.
- f) Cases of indiscipline or misconduct such as mass abstention from classes, irresponsible behaviour inside or outside the classes, use of unethical practices during Internships, or violation of the rules and regulations of the Program will be severely dealt with.
- g) The University reserves the right to impose fines for acts of indiscipline. In more severe cases, a student may be placed on Disciplinary Probation for a semester. Repetition of indiscipline during Disciplinary Probation may result in a student being expelled from the University for a semester or academic year.
- h) In any case where the result of an examination has been ascertained and published, and it is prima facie found that such result has been affected by any malpractice, fraud or any other improper conduct on the part of a student, the Director General shall appoint an ad-hoc committee to examine the matter and seek its opinion. If the opinion of the Committee confirms the malpractice on the part of the student for seeking benefits, following the process of natural justice, the Director General shall amend the result as deemed necessary and order the withdrawal of the certificates/prizes/awards from the student.
- i) In any case where the result of an examination has been ascertained and published, and it is found within six months from the date of declaration of the result that such result has been affected by an error or omission, the Director General shall have the power to amend such result in such manner as shall be by true position and to make such declaration as deemed necessary in that behalf.
- j) If a student has not paid the fees at any stage or has dues pending due to any reason whatsoever, or if any case of indiscipline is pending, the result of the student may be withheld, and the student will not be allowed to enter into the next higher semester. The award of the degree may also be withheld in such cases.

11.3 ACADEMIC CONDUCT & DISCIPLINE

- a) Every student shall conduct her/himself in a manner befitting her/his association with an institution of national importance. S/he is expected not to indulge in any activity that is likely to bring down the prestige of the University.
- b) S/he should also show due respect and courtesy to the teachers, administrators, officers and employees of the School, and good neighbourly behaviour to fellow students. Due attention and courtesy are to be paid to visitors to the School and residents of the campus.
- c) Lack of courtesy and decorum, unbecoming conduct (both within and outside the campus), willful damage and/or removal of the University's property or belongings of fellow students,

disturbing others in their studies, adoption of unfair means during examinations, breach of rules and regulations, noisy and unseemly behaviour, and similar other undesirable activities may result in Disciplinary Probation and expulsion/ dismissal from the University.

- d) Every student, while on the university premises, should observe a decent civilized dress code.
- e) Smoking and consumption of alcoholic drinks are strictly prohibited on the University Campus.
- f) **Ragging in any form is a criminal offence and is strictly prohibited.**
- g) Students are not permitted to run any commercial venture in or outside the University campus. They are also not permitted to associate/help or advise any organizations on a commercial basis and to receive any honorarium for the services rendered during their studies. They are free to work on the campus only if such an opportunity is provided by the University.
- h) The students are required to keep themselves updated with different Notices, Circulars etc. & revisions in the rules if any from time to time informed through Email/Website/Notices. For this, the students have to check their email Ids allotted to them through the University and also to check the University website/notice board regularly.

11. Scope

- a) These rules should be read as a whole, for any interpretation.
- b) In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Director General is final.
- c) The University may change or amend these rules, course structure or syllabi at any time, and the changes or amendments made shall apply to all students from time to time.
- d) Disputes, if any, shall be subject to Ahmedabad jurisdiction only.