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Mandatory Non-Credit Courses Syllabi Regulations - 2021

MANDATORY NON-CREDIT COURSES OFFERED – 2021 UG-REGULATIONS

| Sl. No. | Semester | Course Code | Course Title | Category |
|---------|----------|-------------|---|----------|
| 1 | I | U21MYC01 | Induction Program | MNCC |
| 2 | II | U21MYC02 | Environmental Sciences | MNCC |
| 3 | III | U21MYC03 | Essence of Indian Traditional Knowledge | MNCC |
| 4 | IV | U21MYC04 | Indian Constitution | MNCC |
| 5 | V | U21MYC05 | Cyber Security Essentials | MNCC |
| 6 | VI | U21MYC06 | Introduction To UN-SDG's: An Integrative Approach | MNCC |


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SEMESTER I

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| U21MYC01 | INDUCTION PROGRAM | Category: MNCC | | | |
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1 Introduction

1.1 Background

Engineering colleges were established to train graduates in their respective branch/ department of study, have a holistic outlook towards life, and have a desire to work for national needs and beyond.

The graduating student must have excellent knowledge and skills in the area of his study. However, he must also have broad understanding of society and relationships. Character needs to be nurtured as an essential quality by which he would understand and fulfill his responsibility as an engineer, a citizen and a human being. Besides the above, several meta-skills and underlying values are needed.

There is a mad rush for engineering today, without the student determining for himself his interests and his goals. This is a major factor in the current state of demotivation that exists among UG students towards studies.

The success of gaining admission into a desired institution but failure in getting the desired branch, with peer pressure generating its own problems, leads to a peer environment that is demotivating and corrosive. For some, the start of hostel life without close parental supervision at the same time, further worsens it with also a poor daily routine.

1.2 Extending a Helping Hand

To come out of this situation, a multi-pronged approach is needed. One will have to work closely with the newly joined students in making them feel comfortable, allow them to explore their academic interests and activities, reduce competition and make them work for excellence, promote bonding within them, build relations between teachers and students, give a broader view of life, and build character.

When new students enter an institution, they also come with diverse thoughts, backgrounds and preparations. They come into a new unfamiliar environment, and many of them have little knowledge of a university/college. An important task, therefore, is to welcome the new students to higher education and prepare them for their new role.

Transition from school to university/college life is one of the most challenging events in a student's life. Currently, precious little is done by most institutions, except for an orientation program lasting a couple of days. Student Induction is designed to help in the whole process. Therefore, it should be taken seriously, and as something more than the mere orientation program.

2 Student Induction Program - Purpose & Concept

Purpose of the *Student Induction Program* is to help new students adjust and feel comfortable in the new environment, inculcate in them the ethos and culture of the institution, help them build bonds with other students and faculty members, and expose them to a sense of larger purpose and self-exploration.

The term *induction* is generally used to describe the whole process whereby the incumbants adjust to or acclimatize to their new roles and environment. In other words, it is a well-planned event to educate the new entrants about the environment in a particular institution, and connect them with the people in it.

Student Induction Program engages with the new students as soon as they come into the institution; regular classes start only after that. At the start of the induction, the incumbants learn about the institutional policies, processes, practices, culture and values, and their mentor groups are formed. Then the different activities start, including those which are daily.

Here is a list of activities:

- Physical Activity
- Creative Arts and Culture
- Mentoring & Universal Human Values
- Familiarization with College, Dept./Branch

- Literary Activity
- Proficiency Modules
- Lectures & Workshops by Eminent People
- Visits in Local Area
- Extra-Curricular Activities in College
- Feedback and Report on the Program

The time during the Induction Program is also used to rectify some critical lacunas, for example, English background, for those students who have deficiency in it. These are included under Proficiency Modules.

There will be a 3-week long induction program for the UG students entering the institution, right at the start. Normal classes start only after the induction program is over. Its purpose is to make the students feel comfortable in their new environment, open them up, set a healthy daily routine, create bonding in the batch as well as between faculty and students, develop awareness, sensitivity and understanding of the self, people around them, society at large, and nature.

3 Daily Activity

The following are the activities under the induction program in which the student would be fully engaged throughout the day for the entire duration of the program.

3.1 Physical Activity

This would involve a daily routine of physical activity with games and sports. There would be games in the evening or at other suitable times according to the local climate. These would help develop team work besides health. Each student could pick one game and learn it for the duration of the induction program and hopefully, continue with it later.¹

3.2 Creative Arts

Every student would choose one skill related to the arts whether visual arts or performing arts. Examples are painting, music, dance, pottery, sculpture etc. The student would pursue it every day for the duration of the program.

These would allow for creative expression. It would develop a sense of aesthetics and also enhance creativity which would, hopefully, flow into engineering design later.

3.3 Mentoring and Universal Human Values

Mentoring and connecting the students with faculty members is the most important part of student induction.

Mentoring takes place in the context and setting of *Universal Human Values*. It gets the student to explore oneself and experience the joy of learning, prepares one to stand up to peer pressure and take decisions with courage, be aware of relationships and be sensitive to others, understand the role of money in life and experience the feeling of prosperity. Need for character building has been underlined by many thinkers, universal human values provide the base.

Methodology of teaching this content is extremely important. It must not be through do's and don'ts, but by getting the students to explore and think by engaging them in a dialogue. It is best taught through group discussions and real life activities rather than lecturing. The role of group discussions, however, with clarity of thought of the teachers cannot be over emphasized. It is essential for giving exposure, guiding thoughts, and realizing values.

The teachers must come from all the departments rather than only one department like HSS or from outside of the Institute. Experiments in this direction at IIT (BHU) are noteworthy and one can learn from them.

Discussions would be conducted in small groups of about 20 students with a faculty mentor each. It is to open thinking towards the self. Universal Human Values discussions

could even continue for rest of the semester as a normal course, and not stop with the induction program.

Besides drawing the attention of the student to larger issues of life, it would build relationships between teachers and students which last for their entire 4-year stay and possibly beyond.

For new students entering hostel, there would also be a morning activity coming to the field at 6:30 am for light physical exercise or yoga. There could also be gardening or other suitably designed activity where labour yields fruits from nature.

4 Other Activity

Activities that are not there on a daily basis, but are conducted for 3-4 days (typically in the afternoons) and change thereafter.

4.1 Familiarization with College, Department/Branch

The incoming students should be told about the credit and grading system, and about the examinations. They should be informed about how study in college differs from study in school. They should also be taken on a tour of the college and shown important points such as library, canteen, and other facilities.

They should be shown their department, and told what it means to get into the branch or department. Describe what role the technology related to their department plays in society, and after graduation what role the student would play in society as an engineer in that branch. A lecture by an alumnus of the Dept. would be very helpful in this regard. They should also be shown the laboratories, workshops and other facilities.

The above should be done right in the first two days, and then over the afternoons thereafter, as appropriate.

4.2 Literary Activity

Literary activity would encompass reading a book, writing a summary, debating, enacting a play etc.

4.3 Proficiency Modules

The induction program period can be used to overcome some critical lacunas that students might have, for example, English, computer familiarity etc. These should run like crash courses, so that when normal courses start after the induction program, the student has overcome the lacunas substantially.

We hope that problems arising due to lack of English skills, wherein students start lagging behind or failing in several subjects, for no fault of theirs, would, hopefully, become a thing of the past.

4.4 Lectures & Workshops by Eminent People

Lectures by eminent people should be organized, say, once a week. It would give the students exposure to people who are eminent, in industry or engineering, in social service, or in public life. Alumni could be invited as well.

Motivational lectures about life, meditation, etc. by Ramakrishna Mission, Art of Living, Vivekananda Kendra's, S-VYASA, etc. may be organized. Workshops which rejuvenate or bring relief to students would also be welcome, such as, Art of Living workshops (3 sessions, 9 hours).

4.5 Visits in Local Area

A couple of visits to the local landmarks including historical monuments should be organized. This would familiarize the students with the area together with bonding with each other, like in a picnic.

Visits should also be organized to a hospital, orphanage or a village. These would expose them to people in suffering or to different lifestyles. This might also sensitize them to engineering needs in these areas.

4.6 Extra-Curricular Activities in College

The new students should be introduced to the extra-curricular activities at the college/university. They should be shown the facilities and informed about activities related to different clubs etc. This is when selected senior students involved in or leading these activities can give presentations, under faculty supervision.

4.7 Feedback and Report on the Program

Students should be asked to give their mid-program feedback. They should be asked to write their opinions about the program at the end of the first week or so. The feedback should be used to make any mid-course correction, if any.

Finally, at the end of the program, each group (of 20 students) should be asked to prepare a single report on their experiences of the program. On the second last day, each group should present their report in front of other groups. Immediately after their presentation, they should submit their written report. This will also serve as a *closure* to the program.

Finally, a formal written or online anonymous feedback should be collected at the end of the program.

5 Schedule

The activities during the Student Induction Program would have an Initial Phase, a Regular Phase and a Closing Phase. The Initial and Closing Phases would be two days each.

5.1 Initial Phase

| Time | Activity |
|-------------------------------------|--|
| Day 0 Whole day | External students arrive - Hostel allotment. (Preferably Do pre-allotment) |
| Day 1 09:00 am - 03:00 pm | Academic registration |
| 04:00 pm - 06:00 pm | Orientation - Institute/college level Day 2 |
| Day 2 09:00 am - 10:00 am | Diagnostic test (for English etc.) |
| 10:15 am - 12:25 pm | Visit to respective depts. |
| 12:30 pm - 01:55 pm | Lunch break |
| 02:00 pm - 02:55 pm | Director's/Principal's address |
| 03:00 pm - 05:00 pm | Interaction with parents by Director/Principal |
| 03:30 pm - 05:00 pm | Mentor-mentee groups meet - Introductions of new Students within group. (Same as Universal Human Values groups) |

In the Orientation Program on Day 1, the Principal, Deans, and other college functionaries address and welcome the new students along with their parents. It serves to provide space for telling the new students about the college, and their academic and student life.

5.2 Regular Phase

After the first two days is the start of the Regular Phase of induction. In this phase, there would be regular sessions conducted every day.

5.2.1 Daily Schedule

Some of the activities are on a daily basis, while some others are at specified periods within the Induction Program. We first show a typical daily timetable.

Typical day (Day 3 onwards):

| Ses sn. | Time | Activity | Remarks |
|---------|---------------------|---|------------|
| I | 09:00 am - 10:55 am | Creative Arts / Universal Human Values | |
| II | 11:00 am - 12:55 pm | Universal Human Values / Creative Arts | |
| | 01:00 pm - 02:00 pm | <i>Lunch break</i> | |
| III | 02:00 pm - 02:55 pm | Afternoon Session | See below. |
| IV | 03:00 pm - 03:55 pm | Afternoon Session | See below. |
| V | 04:00 pm - 05:00 pm | Games & Sports | |

Sundays are off. Saturdays have the same schedule as above or have outings.

5.2.2 Afternoon Activities (Non-Daily)

The activities given below are scheduled at different times of the Induction Program, and are not held daily for everyone.

1. Familiarization with College, Dept./Branch
2. Literary activity
3. Proficiency Modules
4. Lectures & Workshops by Eminent People
5. Visits in Local Area
6. Extra-Curricular Activities in College
7. Feedback and Report on the Program

Here is the activity schedule for the afternoons and may be changed to suit local needs.

| Activity | Session | Remarks |
|--|-------------|---|
| Familiarization with College, Dept. / Branch | III & IV | for 3 days (Day 3 to 5) |
| Visits in Local Area | III, IV & V | For 3 days - interspersed (e.g., 3 Saturdays) |
| Lectures & Workshops by Eminent People | III or IV | As scheduled - 3-5 lectures |
| Literary (Play / Book Reading / Lecture) | III | For 3-5 days |
| Proficiency Modules | IV or V | Daily, but only for those who need it |
| Extra-Curricular Activities in College | III & IV | During second week (for 1 or 2 days) |
| Feedback and Report on the Program | | On second last day |

Additional Daily Schedule for Hostellers

| Sessn. | Time | Activity | Remarks |
|-------------|----------------------------|---|-----------------------------|
| | 06:00 am | Wake up call | |
| Morn | 06:30 am - 07:10 am | Physical activity (Mild Exercise and Yoga) | |
| | 07:15 am - 08:55 am | Bath, Breakfast, etc. | |
| | 05:00 pm - 05:25 pm | Snacks break | |
| | 05:30 pm - 08:25 pm | Rest and dinner break | |
| Eve | 08:30 pm - 09:25 pm | Informal interactions with faculty mentors and student guides (in hostels) | As arranged (not every day) |

Closing Phase

| Time | Activity |
|---------------------------------------|--|
| Second Last Day 08:30 am - 12 noon | Discussions and Finalization of Presentation within each group (Meeting among students only) |
| 02:00 am - 05:00 pm | Presentation of Report by each Group |
| Last Day Whole Day | Tests of Creative Arts, Universal Human Values (as planned by college) |

5.3 Follow Up after Closure

A question comes up as to what would be the follow up program after the formal 3-week Induction Program is over? The groups which are formed should function as mentor-mentee network. A student should feel free to approach his faculty mentor or the student guide, when facing any kind of problem, whether academic or financial or psychological etc. (For every 10 undergraduate first year students, there would be a senior student as a *student guide*, and for every 20 students (for two such 10-student groups), there would be a *faculty mentor*.) Such a group should remain for the entire 4-5 year duration of the stay of the student. Therefore, it would be good to have groups with the students as well as teachers from the same department/discipline.²

Here we list some important suggestions which have come up and which have been experimented with successfully.

5.3.1 Follow Up after Closure – Same Semester

It is suggested that the groups meet with their faculty mentors once a month, within the semester after the 3-week Induction Program is over. This should be a scheduled meeting shown in the timetable. (The groups are of course free to meet together on their own more often, for the student groups to be invited to their faculty mentor's home for dinner or tea, nature walk, etc.)

5.3.2 Follow Up – Subsequent Semesters

It is extremely important that continuity be maintained in subsequent semesters.

²We are aware that there are advantages in mixing the students from different depts. while forming groups. However, in mixing, it is our experience that the continuity of the group together with the faculty mentor does not last beyond the first semester/year. Therefore, the groups be from the same

dept. so that the students would meet their mentors in the department also. For those colleges with hostels, the hostel wings for first year undergraduates should have the mixed students from different depts. For example, the hostel room allotment for the 1st year undergraduates should be in alphabetical order irrespective of department or program. This would ensure mixing of students from different departments. It is suggested that at the start of the subsequent semesters (upto fourth semester), three days be set aside for three full days of activities related to follow up to Induction Program. The students be shown inspiring films, do collective art work, and group discussions be conducted. Subsequently, the groups should meet at least once a month.

6 Organizing the Student Induction Program

6.1 Preparing for the Conduct of the Program

Induction is a well-planned process of introducing the new students to higher education, the institution, etc. Before it is conducted, it is essential to plan all the activities in advance. The following preparations are recommended:

1. Ensure full support from head of the institution and top management.
2. Joint meeting of all the partners involved (see below), in getting their participation in the process of education.
3. Constitution of Induction Committee chaired by the Director/Principal and convened by Dean/Vice Principal which will prepare detailed plan of the induction programme in consultation with the head of the institution, facilitate the conduct, monitor and coordinate the whole induction programme.
4. A hyper link on Student Induction of new students is to be created on the web-site of the institution having information about the induction, detailed schedule, provision for daily reporting, feedback, etc.
5. New students be informed that the Induction is mandatory non-credit course for which a certificate will be issued by the institution.
6. Ensure compulsory participation by the involved teachers and other partners.
7. Detailed scheduling of the activities based on the nature, size and location of the institution.
8. Preparing induction policy and charter for students stating their responsibilities.
9. Conducting a half-day workshop for partners on how to conduct student induction.
10. Appoint UHV cum Mentor Coordinator (faculty in-charge of Mentoring and Universal Human Values activity of the Program) before the Induction Program begins. His/her responsibility is to form mentor groups, ensure smooth running of the universal human values group discussions, and hold meetings of mentors periodically.
11. Appoint Departmental Nodal Mentor in each dept. The Dept. Nodal Mentors will play a crucial role in assisting the overall UHV Mentor Coordinator.
12. Training program for faculty to be conducted on how to mentor students based on universal human values, and imparting holistic education and larger vision of life. (Only those faculty members are to be mentors and are to conduct the group discussions in universal human values, who have received a certificate after going through a 3-day followed by a 7-day Faculty Development Program for Student Induction, approved by AICTE.)

Partners in Induction:

- Head of the Institution
- Important functionaries
- Faculty mentors
- Students council/association
- Selected senior students (student guides)
- Selected alumni
- Civil society
- Invited distinguished people

6.2 Organizing the Daily Activities

For each of the activities below, a faculty member be given the responsibility for its organization, conduct and monitoring.

6.2.1 Physical Activity

Fitness session, yoga classes, lecture(s) on facing world with sportsman spirit, making young students aware that there is nothing like being failure in the world. The world gives opportunities to all.

The incoming students must be divided into batches of 50 students maximum, and a qualified coach in physical education should be attached to each batch. Institute may employ part time coaches for this purpose for the duration of the Induction Program.

The list of available games, sport, or physical activities should be announced on Day 1 when the new students arrive. They should be asked to fill their choice with three preferences, and the game or sport be allotted to them as per their preference. There should be sufficient number of coaches for each game/sport as per norms.

The physical activity should start from Day 3 onwards as a daily activity, wherein the student learns and plays his assigned game during the Induction program. It is also important that along with his assigned game the student also practises yoga for at least 7 sessions.

Two days to be kept at the end for conducting fitness test and yoga test in groups. Students are to be given satisfactory (S) or unsatisfactory (X) grades on the mandatory non-credit activity.

6.2.2 Creative Arts

Qualified instructors for arts may be hired on contract basis and be paid honorarium as per norms of the institute. Daily 90 to 120 minute sessions may be arranged.

The list of available art forms, such as vocal music, instrumental music, folk music, painting, sketching, dance, group dance, clay modelling, pottery, dramatics, etc. should be announced on Day 1 when the new students arrive. They should be asked to fill their choice with three preferences, and the art form be allotted to them as per their preference. There should be sufficient number of teachers for each art form. The ratio may be kept as 1 teacher for every 25 students.

The last two days of the Student Induction Program be reserved for assessing the progress of students on satisfactory (S) or unsatisfactory (X) grades for completion of mandatory non-credit activity.

6.2.3 Mentoring and Universal Human Values

The UHV cum Mentor Coordinator should get the departments to nominate faculty mentors

for the activity at least 3 months in advance (preferably, in April/May, before the previous even semester ends), as it will require preparation on the part of the mentors. The number of mentors to be nominated by the departments should be 1 teacher for every 20 new incoming students. Names of Dept. Nodal Mentors should be worked out as well, in consultation between the Dept. and the Mentor Coordinator.

A preparatory meeting should be held well in advance (in May itself), so that mentors come together to function as a team which will conduct the mentoring and UHV activity. Periodic meeting may be arranged for the preparation of how the sessions are to be conducted.

After one year of running of the Induction Program, senior students would become available as Student Guides (out of those who have done well in UHV group discussions and it is visible in their behaviour). These students would be selected in April/May and be given a 1-day training at the beginning of the session in July/August.

UHV groups of 20 first year undergraduate students should be constituted with at least 2 Student Guides and 1 Faculty Mentor each. The groups would be department-wise, and should be formed even before the new students arrive. For example, if Electrical Engg. has an intake of 60, there would be 3 groups of size 20 first year undergraduate students with 6 student guides and 3 faculty mentors. Each student guide should be assigned 10 students (out of the 20 students in the group).

The groups have to be populated alphabetically (or in any manner mixing the student without any bias) in a department.

The groups would be meeting every day during the Induction Program after the first day. The first meeting kept on the 2nd or 3rd day, should have the faculty mentors as well as the student guides present where they introduce themselves to each other.

In case of UHV, a mid-term open-book take-home examination is recommended. The question paper is mailed to the students and they have to write it at home and submit. The question paper is designed to elicit the experiences of students. The mentor can discuss the answers submitted by students in a group discussion. The final examination be kept on the last day of the Induction Program, as an open question paper in which the major part of the question paper is mailed to the students beforehand, but they have to write the answers in the exam hall. The faculty mentor's assessment that the student engaged thoughtfully in the group discussions would be paramount in awarding satisfactory or unsatisfactory to that student.

The last two days of the Student Induction Program are anyway reserved for assessing the progress of students on satisfactory (S) or unsatisfactory (X) grades for completion of the mandatory non-credit activity.

6.3 Organizing the Other Activities

For each of the activities below, a faculty member be given the responsibility for its organization, conduct and monitoring.

6.3.1 Familiarization with College, Department/Branch

The students admitted in a branch would visit their allotted department or branch. The Head of the department and other associated faculty should address the new student's right on Day 2 or so. Arrangements should be made about the meeting/gathering. The parents of the students should also be welcomed if they accompany their ward.

It would be helpful if an alumnus of the Dept. relates his professional experience related to the field of the study to the incoming students. For this he/she should be contacted beforehand.

6.3.2 Literary Activity

A faculty member interested in literary activity should be assigned for organizing the activity. A list of books which are interesting and educational should be prepared beforehand. Books in Indian languages must be included and even given priority. Students are losing connection with languages in general and their own language, in particular.

Students should be assigned a book or other smaller reading material. They should be asked to read and write a critical summary. They should present their summary in front of

their group. A literary group may consist of around 30-40 students.

Similarly, debating and public speaking activity could also be undertaken. If the college can arrange for a drama workshop where a group of students learn and enact a play it would be very good. Not all the incoming students would do this, but those who wish may be provided the opportunity. Help may be taken from senior students engaged in such extracurricular activities in the college.

6.3.3 Proficiency Modules

For English, a diagnostic test should be conducted on Day 2 itself. Before the test, the students should be informed that the test would not affect their grades, branch change, or any aspect of their admission, placement, study, etc. Purpose of the test is to provide help to those students who need help in English.

Students having more than 80% marks in their high school or plus 2 need not take the diagnostic test. For those below this cutoff, writing the test is mandatory. Students with weak performance in the test, must attend a non-credit course in Basic English. Their attending the course is mandatory. There would be no separate fee payable for the course. The classes of Basic English must start from Day 4 at the latest. A one-hour class should be conducted every day. As the time slot would have to be found during the day time, the students doing the course would miss some of the afternoon activities. (If it is possible to conduct the course in the evening, then the students would not miss the activities during the induction program. Option may be explored.)

6.3.4 Lectures & Workshops by Eminent People

Eminent people from all walks of life may be invited to deliver lectures, namely, from industry, academia, social science (authors, historians), social work, civil society, alumni etc. be identified and invited to come and address the new students. 3 to 5 lectures may be organized during the induction program, say, about one lecture a week.

Motivational lectures about life, meditation, etc. by Ramakrishna Mission, Art of Living, S-VYASA University, Vivekananda Kendra's, etc. may be organized. Workshops which rejuvenate or bring relief to students would also be welcome, such as, Art of Living workshops (3 sessions, 9 hours).

Local resource persons may be contacted for such purposes. Suitable slots in the afternoon/evening may be found suitably for the lectures and workshops.

6.3.5 Visits in Local Area

Visit to a local heritage site or a local landmark should be organized. It exposes the student to heritage or history of the place. One should try to make the trip educational and have guides who explain the history behind the place. If there is no such place nearby, alternatively, a trip to a local place of natural beauty may be organized. Another purpose such a visit serves is bonding among themselves, and also with student guides and faculty mentors, if they go with them. It is like going on a picnic.

Necessary arrangements would have to be made for arranging buses, guides, and food etc.

Besides the above, a visit may also be organized to a village, an orphanage, etc. The purpose of such a visit would be social awareness. Such a visit should be planned later on, possibly in the third week of the Induction Program.

6.3.6 Extra-Curricular Activities in College

Every college has extra-curricular activities. Most of them are student driven. They are organized by student councils and clubs. The extra-curricular activities going on in the college should be presented to the new students under the guidance of faculty advisors for such activity. The new students should be informed about how they can join the activities. Related facilities should be described to them.

Presentation on the activities by the student council should be made in the second week of the Induction Program. Note that all new students would be learning an art form as well a

game, which will give a big impetus to the extra-curricular activity, in time to come.

6.3.7 Feedback and Report on the Program

Informal feedback should be sought from the students at the end of the first week. They should be asked to write their feelings and ideas, and submit in writing.

A final *formal feedback* at the end of the program should be collected from students by their filling a form in writing or online.

Besides the above, each group (of 20 students) should write a report on the Induction Program towards the end of the Program. Thus, there would be as many written reports as there are groups. They would also have to make a presentation of their report. They should be encouraged to use slides while making a presentation.

Presentation of the report should be made in the language they are comfortable with, without any insistence that it should be in English. It is more important that they feel comfortable and confident. Each group may make the presentation through 4-5 of its group members or more.

In case, the number of new students in a college is large, the presentation should be made by each group in front of 4 other groups besides their own, thus there would be about 100 students (in 5 groups) in the audience in a session. Several such sessions could run in parallel or serially.

In each session, their faculty mentors and student guides, if any, should also be in the audience. These sessions would tell you how well the program ran, and what the students are feeling at the end of the program. This would also serve as a *grand closure* to the program.

6.4 Some Important Points

The Student Induction Program is a mandatory non-credit program in the AICTE Model Curriculum 2018. Colleges have to ensure that students have completed the program satisfactorily. Attendance should be taken.

For the creative arts and universal human values components, a test should be conducted to determine that the students were able to gain from these activities. For physical education also, assessment should be done during the last few slots.

For the other activities, attendance would serve to ensure participation.

No fee should be collected from the student for the overall program or any component of the program. The expenses in running the program would have to be borne by the college.

7 Summary

Engineering institutions were set up to generate well trained manpower in engineering with a feeling of responsibility towards oneself, one's family, and country. The incoming undergraduate students are driven by their parents and society to join engineering without understanding their own interests and talents. As a result, most students fail to link up with the goals of their own institution.

The graduating student must have values as a human being, and knowledge and meta-skills related to his/her profession as an engineer and as a citizen. Most students who get demotivated to study engineering or their branch, also lose interest in learning.

The *Induction Program* is designed to make the newly joined students feel comfortable, sensitize them towards exploring their academic interests and activities, reducing competition and making them work for excellence, promote bonding within them, build relations between teachers and students, give a broader view of life, and building of character.

The *Universal Human Values* component, which acts as an anchor, develops awareness and sensitivity, feeling of equality, compassion and oneness, draw attention to society and nature, and character to follow through. It makes them reflect on their relationship with their families and extended family in the college (with hostel staff and others). It also connects students with each other and with teachers so that they can share any difficulty they might be facing and seek help.

8 Acknowledgement

8.1 Genesis of Induction Program

Induction Program was discussed and approved for all colleges by AICTE in March 2017. It was discussed and accepted by the Council of IITs for all IITs in August 2016.

It was originally proposed by a Committee of IIT Directors and accepted at the meeting of all IIT Directors in March 2016. A Committee of IIT Directors was setup in the 152nd Meeting of IIT Directors on 6th September 2015 at IIT Patna, on how to motivate undergraduate students at IITs towards studies, and to develop verbal ability. The Committee submitted its report on 19th January 2016. It was considered at the 153rd Meeting of all IIT Directors at IIT Mandi on 26 March 2016, and the accepted report came out on 31 March 2016. The Induction Program was an important recommendation, and its pilot was implemented by three IITs, namely, IIT(BHU), IIT Mandi and IIT Patna in July 2016.

At the 50th meeting of the Council of IITs on 23 August 2016, recommendation on the Induction Program and the report of its pilot implementation were discussed and the program was accepted for all IITs.

This guide has been prepared based on the Report of the Committee of IIT Directors and the experience gained through its pilot implementation in July 2016 as accepted by the Council of IITs. Purpose of this document is to help institutions in understanding the spirit of the accepted Induction Program and implementing it.

8.2 Design of Induction Program

Induction Program as described here borrows from three programs running earlier at different institutions:

- Foundation Program running at IIT Gandhinagar since July 2011,
- Human Values course running at IIIT Hyderabad since July 2005, and
- Mentor-mentee network at several colleges, and in some, for many decades.

Contribution of each one is described next.

1. IIT Gandhinagar was the first IIT to recognize and implement a special 5-week Foundation Program for the incoming 1st year UG students. It took a bold step that the normal classes would start only after the five week period. It involved activities such as games, art, etc., and also science and other creative workshops and lectures by resource persons from outside.
2. IIIT Hyderabad was the first one to implement a compulsory course on Human Values. Under it, classes were held by faculty through discussions in small groups of students, rather than in lecture mode. Moreover, faculty from all departments got involved in conducting the group discussions under the course. The content is non-sectarian, and the mode is dialogical rather than sermonizing or lecturing. Faculty were trained beforehand, to conduct these discussions and to guide students on issues of life.
3. Many institutes setup mentor-mentee network under which 1st year students are divided into small groups, each assigned to a senior student as a student guide, and to a faculty member as a mentor. Thus, a new student may go to a faculty member or a senior student, in case of any difficulty whether social, psychological, financial, academic, or otherwise.

The Induction Program defined here amalgamates all the three into an integrated whole, which leads to its high effectiveness in terms of building physical activity, creativity, bonding, and character. It develops sensitivity towards self and one's relationships, builds awareness about others and society beyond the individual, and also in bonding with their own batch-mates and a senior student besides a faculty member.

Scaling up the above amalgamation to an intake batch of 1000 plus students was done at IIT(BHU), Varanasi starting from July 2016.

8.3 Universal Human Values and Scaling Up

The Universal Human Values course is a result of a long series of experiments at educational institutes starting from IIT Delhi and IIT Kanpur in the 1980s and 1990s as an elective course, and in NIT Raipur in early 2000s as a compulsory one week off-campus program. At IIIT Hyderabad, two regular compulsory courses were introduced in July 2005 for all BTech students. The courses at IIT(BHU) which started from July 2014, are taken and developed from IIIT Hyderabad. (A shorter version of UHV has also been included at IIT Mandi, IIT Patna, IIT Kharagpur etc. as a part of their induction program.)

Multiplication of the Universal Human Values compulsory course took place when Abdul Kalam Technical University (AKTU), Lucknow, taking the cue from IIIT Hyderabad, adopted it in July 2009 for about 600 engineering colleges. It spread to Punjab through the Punjab Technical University (PTU), Kapurthala in July 2011 for about 300 engineering colleges. Similar compulsory course was started in Andhra Pradesh and Telangana, but this time for BSc, BA and BCom students, in July 2013 for about 1000 Government and Aided Colleges, and later in July 2015 for additional 2000 private colleges. It has also gone to many unitary institutions.

8.4 Faculty Development Program for Student Induction (FDP-SI)

After AICTE decide to accept the Student Induction Program in March 2017 for engineering colleges, a shorter one week version was run in colleges/universities under TEQIP-III starting from Oct. 2017. To train the faculty of 180 TEQIP-III institutions, 3-day Faculty Development Programs for Student Induction (FDP-SI) (earlier named as Teachers Training Workshop or TTW) were run from August 2017 to December 2017. This pilot run provided valuable feedback in the design of 3-day and 7-day FDP-SI.

Such training programs were earlier tested at the universities AKTU, PTU and at Andhra Pradesh and Telangana, with hundreds of affiliated colleges.

Such FDP-SI are running all over the country starting from May 2018 to train the faculty members from engineering colleges to do mentoring for new undergraduate students and conduct classes (group discussions) for Universal Human Values.

9 References

Motivating UG Students towards Studies,

Rajeev Sangal, IITBHU Varanasi, Gautam Biswas, IIT Guwahati, Timothy Gonsalves, IIT Mandi, Pushpak Bhattacharya, IIT Patna, (Committee of IIT Directors), 31 March 2016, IIT Directors' Secretariat, IIT Delhi.

SEMESTER II

| | | | | | |
|----------|-----------------------|----------------|---|---|---|
| U21MYC02 | ENVIRONMENTAL SCIENCE | Category: MNCC | | | |
| | | L | T | P | C |
| | | 0 | 0 | 0 | 0 |

PRE-REQUISITES:

- Nil

COURSE OBJECTIVE:

- Gain knowledge about environment, ecological balance and bio-diversity
- Acquire idea on resources and how to conserve it
- Understand about societal problems and its mitigation

UNIT I ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY 7

Definition, scope and importance of environment – concept of an ecosystem – structure and function of an ecosystem – producers, consumers and decomposers – energy flow in the ecosystem – food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the (a) forest ecosystem (b) grassland ecosystem (c) desert ecosystem (d) aquatic ecosystems- pond. Introduction to biodiversity definition – value of biodiversity (consumptive use, productive use, social, ethical, aesthetic and option values). India as a mega-diversity nation – hot-spots of biodiversity – threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, conservation of biodiversity: In-situ and ex-situ conservation of biodiversity

UNIT II NATURAL RESOURCES 5

Forest resources: Use and over-exploitation, deforestation, case studies, Water resources: Use and over-utilization of surface and ground water, conflicts over water, dams-benefits and problems – Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies – Energy resources: renewable and non-renewable energy sources

UNIT III ENVIRONMENTAL POLLUTION 5

Definition – causes, effects and control measures of: (a) Air pollution, Water, Noise pollution. Solid waste management: causes, effects and control measures of municipal solid wastes – role of an individual in prevention of pollution – Disaster management: floods, earthquake, cyclone and landslides, climate change, global warming, acid rain, ozone layer depletion

UNIT IV SOCIAL ISSUES AND HUMAN WELFARE 3

Sustainable development – urban problems related to energy – water conservation, rain water harvesting, watershed management – environmental protection laws- Resettlement and rehabilitation of people – Population growth, variation among nations – population explosion – family welfare programme – value education – HIV / AIDS

Contact Periods:

| | | | | |
|---------------------|---------------------|----------------------|---------|------------|
| Lecture: 20 Periods | Tutorial: - Periods | Practical: – Periods | Project | – Periods |
| | | | Total | 20 Periods |

TEXT BOOKS:

1. Benny Joseph, Environmental Science and Engineering, Tata McGraw-Hill, New Delhi, 2006.
2. Gilbert M. Masters, Introduction to Environmental Engineering and Science, 2nd edition, Pearson Education, 2004.

REFERENCES:

1. Dharmendra S.Sengar, Environmental law, Prentice hall of India, Pvt. Ltd., New Delhi,2007.
2. Erach Bharucha, Text book of Environmental Studies, Universities Press(I), Pvt. Ltd.,Hyderabad, 2015.

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

| COs | Statements | K-Level |
|-----|---|------------|
| CO1 | Infer the importance of environment and explain the concept, structure, functions of ecosystem and summarize different values, threats and the need for conservation of biodiversity. | Understand |
| CO2 | Explain the types of natural resources and its importance of conservation. | Understand |
| CO3 | Classify the types of pollution and propose suitable methods to prevent pollution. | Understand |
| CO4 | Outline the various social issues and understand the role of value education. | Understand |

COURSE ARTICULATION MATRIX:

| POs COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | 3 | - | - | - | - | - | 2 | - | - | - | - | 1 | - | - |
| CO2 | 3 | - | - | - | - | - | 2 | - | - | - | - | 1 | - | - |
| CO3 | 3 | - | - | - | - | - | 2 | - | - | - | - | 1 | - | - |
| CO4 | 3 | - | - | - | - | - | 2 | - | - | - | - | 1 | - | - |
| Correlation levels: 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High) | | | | | | | | | | | | | | |

SEMESTER III

| | | | | | |
|----------|---|----------------|---|---|---|
| U21MYC03 | ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE | Category: MNCC | | | |
| | | L | T | P | C |
| | | 0 | 0 | 0 | 0 |

PRE-REQUISITES:

- Nil

COURSE OBJECTIVES:

- Understand the concept of culture in ancient, medieval and modern period.
- Know the need and importance of Indian languages and Literature.
- Know the various religion and philosophy in various periods.
- Understand the developments in the field of Arts, Science, and Technology & Engineering over the ancient, medieval and modern periods.
- Understand about the education system and the scientists.

UNIT I INTRODUCTION TO CULTURE 5

Culture, civilization, culture and heritage, general characteristics of culture, importance of culture in human literature, Indian Culture, Ancient India, Medieval India, Modern India

UNIT II INDIAN LANGUAGES AND LITERATURE 5

Indian Languages and Literature-I: the role of Sanskrit, significance of scriptures to current society, Indian philosophies, other Sanskrit literature, literature of south India

Indian Languages and Literature-II: Northern Indian languages & literature, Temples and Temple types, Sculptors' specialties, Temples Individualities Festivals and hopes

UNIT III RELIGION AND PHILOSOPHY 5

Religion and Philosophy in ancient India, Religion and Philosophy in Medieval India, Religious Reform Movements in Modern India (selected movements only)

UNIT IV ARTS, SCIENCE, TECHNOLOGY & ENGINEERING IN INDIA 5

Indian Painting, Indian handicrafts, Music, divisions of Indian classic music, modern Indian music, Dance and Drama, Indian Architecture (ancient, medieval and modern), Science and Technology in India, development of science in ancient, medieval and modern India, Sushruta and Charaka and Sages of south India Bohar – Herbal treatments- Diseases and surgery methods of Healers. Yoga and Pranayama practices. Herbal Usages and medication making methods

UNIT V EDUCATION SYSTEM IN INDIA 5

Education in ancient, medieval and modern India, aims of education, subjects, languages, Science and Scientists of Ancient India, Science and Scientists of Medieval India, Scientists of Modern India

Contact Periods:

Lecture: 25 Periods Tutorial: – Periods Practical: 0 Periods Total: 25 Periods

TEXT BOOKS:

1. Kapil Kapoor, "Text and Interpretation: The India Tradition", ISBN: 81246033375, 2005
2. Science in Samskrit", Samskrita Bharti Publisher, ISBN 13: 978-8187276333, 2007

REFERENCES:

1. Satya Prakash, "Founders of Sciences in Ancient India", Vijay Kumar Publisher, 1989
2. M. Hiriyanna, "Essentials of Indian Philosophy". Motilal Banarsidass Publishers, ISBN 13: 9788120810990, 2014
3. S. Narain, "Examinations in ancient India", Arya Book Depot, 1993
4. NCERT, "Position paper on Arts, Music, Dance and Theatre", ISBN 81-7450 494-X, 200
5. B. Kumar Mohanta, Vipin Kumar Singh, "Traditional Knowledge System and Technology in India" 2012.

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

| COs | Statements | K-Level |
|-----|--|------------|
| CO1 | Understand philosophy of Indian culture. | Understand |
| CO2 | Distinguish the Indian languages and literature. | Understand |
| CO3 | Learn the philosophy of ancient, medieval and modern India | Remember |
| CO4 | Acquire the information about the fine arts in India. | Apply |
| CO5 | Know the contribution of scientists of different eras. | Understand |

COURSE ARTICULATION MATRIX:

| POs COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | - | 2 | - | 1 | - | - | 3 | - | - | - | - | - | - | - |
| CO2 | - | 2 | - | 1 | - | - | 3 | - | - | - | - | - | - | - |
| CO3 | - | 2 | - | 1 | - | - | 3 | - | - | - | - | - | - | - |
| CO4 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - |
| CO5 | - | 2 | - | 1 | - | - | 3 | - | - | - | - | - | - | - |
| Correlation levels: 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High) | | | | | | | | | | | | | | |

SEMESTER IV

| | | | | | |
|----------|---------------------|----------------|---|---|---|
| U21MYC04 | INDIAN CONSTITUTION | Category: MNCC | | | |
| | | L | T | P | C |
| | | 0 | 0 | 0 | 0 |

PRE-REQUISITES:

- Nil

COURSE OBJECTIVES:

- To understand the evolution and importance of constitution.
- To understand salient features of Indian constitution and philosophy of fundamental rights.
- To acquaint the working conditions of union government their powers and functions.
- To gain the knowledge about the state government and local level administration.
- To create consciousness about the democratic values and principles articulated in the constitution.

UNIT I HISTORICAL BACKGROUND OF INDIAN CONSTITUTION 5

Introduction to Indian Constitution: Constitution meaning of the term, History of Making of the Indian Constitution, Evolution of the Indian Constitution, Drafting Committee (Composition & Working)

UNIT II FEATURES OF INDIAN CONSTITUTION 5

Philosophy and Salient Features of Indian Constitution, Citizenship, Fundamental Rights, Duties and their significance. Directive Principles of State Policy. Rights Protective Mechanisms in India; Right to Education Act 2009; Right to Information 2005.

UNIT III UNION GOVERNMENT 5

Union Legislature (Parliament), Lok Sabha and Rajya Sabha (with Powers and Functions), Union Executive, President of India (with Powers and Functions), PM and Council of ministers (with Powers and Functions), Cabinet and Central Secretariat, Union Judiciary (Supreme Court).

UNIT IV STATE GOVERNMENT AND LOCAL ADMINISTRATION 5

Governor, CM and Council of ministers, State Secretariat- Roles and responsibilities, District's Administration Head, Municipalities - Mayor and role of Elected Representative, Panchayat, Zilla Panchayat- roles and responsibilities. Block level and Village level Organizational Hierarchy.

UNIT V CONSTITUTIONAL INSTITUTIONS 5

Election Commission of India - Powers & Functions - Electoral Process in India. Methods of Constitutional Amendments and their Limitations. Important Constitutional and gist Emergency Provisions. Case Studies.

Contact Periods:

Lecture: 25 Periods Tutorial: – Periods Practical: - Periods Total: 25 Periods

TEXT BOOKS:

1. Durga Das Basu, Introduction to the Constitution of India, Prentice – Hall of India Pvt. Ltd., New Delhi
2. Subash Kashyap, Indian Constitution, National Book Trust

REFERENCES:

1. Laxmikanth. (2013) Indian Polity. McGraw Hill Education India.
2. M. P. Jain, Indian Constitution Law, 7th Edn., Lexis Nexis, 2014
3. Ambedkar and Constitution, Raj Kumar, Commonwealth Publication Pvt. Ltd., New Delhi, 2011.

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

| COs | Statements | K-Level |
|-----|---|------------|
| CO1 | Understand historical background of the constitution making and its importance for building a democratic India. | Understand |
| CO2 | Understand the value of the fundamental rights and duties for becoming good citizen of India. | Understand |
| CO3 | Analyze the power of central government. | Analyze |
| CO4 | Understand the role and responsibilities of state and local administration. | Understand |
| CO5 | Apply the knowledge in strengthening of the constitutional institutions like Election Commission and UPSC for sustaining democracy. | Apply |

COURSE ARTICULATION MATRIX:

| COs | POs | | | | | | | | | | | | PSO1 | PSO2 |
|---------------------|-----|-----------------|-----|-----|-----|----------------------|-----|-----|-----|-----------------------|------|------|------|------|
| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | | |
| CO1 | - | - | - | - | - | 1 | 2 | 3 | - | - | - | - | - | - |
| CO2 | - | - | - | - | - | 1 | 2 | 3 | - | - | - | - | - | - |
| CO3 | - | - | - | - | - | 1 | 2 | 3 | - | - | - | - | - | - |
| CO4 | - | - | - | - | - | 1 | 2 | 3 | - | - | - | - | - | - |
| CO5 | - | - | - | - | - | 1 | 2 | 3 | - | - | - | - | - | - |
| Correlation levels: | | 1: Slight (Low) | | | | 2: Moderate (Medium) | | | | 3: Substantial (High) | | | | |

**SEMESTER V**

| | | | | | | |
|-----------------|----------------------------------|----------------|----------|----------|----------|----------|
| U21MYC05 | CYBER SECURITY ESSENTIALS | Category: MNCC | | | | |
| | | L | T | P | J | C |
| | | 1 | 0 | 0 | 0 | 0 |

PRE-REQUISITES:

- Nil

COURSE OBJECTIVES:

- To familiar with information systems and threat to information systems
- To understand the cyber hacking and cyber crimes
- To explore cybercrime investigation and punishment

SYLLABUS:**UNIT I INFORMATION SYSTEMS AND THREATS TO INFORMATION SYSTEMS 5**

Cyber hacking: Types of Hacking, Cracking, Phreaking and Hacking, Initiatives to Prevent and Control Cyber Hacking, Cyber Hacking in the United Kingdom, Cyber Hacking in India – Cyber fraud: Modes of Cyber Fraud, Cyber Fraud in India, Cyber Crimes, Cyber Crimes in Against Economy, Cyber Warfare, Cyber Crime Preventive Steps for Individuals, Preventive Steps for Organizations and Government, Problems Related with Cyber Crime, Types of Cyber Crime

UNIT II CYBER HACKING AND CYBER CRIMES 5

History and Importance of Information Systems, The Changing Nature of Information Systems, Globalization of Businesses and the Need for Distributed Information systems, Threats to Information Systems, Building Blocks of Information Security, Information Security Management in Organizations

UNIT III CYBER CRIME INVESTIGATION AND PUNISHMENT 5

Administrative Mechanism, Anonymity of Cyberspace, Investigation of Cyber Crimes, Lack of Expertise and Sensitivity, Legal Framework, Local Jurisdiction, Cyber Law, Effective Law Enforcement, Modes of Cyber Terrorism

Contact Periods:

Lecture: 15 Periods Tutorial: - Periods Practical: – Periods Project – Periods
Total 15 Periods

REFERENCES:

1. Rick Howard, "Cyber Security Essentials", 1st Edition, Auerbach Publications 2011.
2. National Cyber Crime Reference – Handbook-I, National Cyber Safety and Security Standards, India, 2014.
3. National Cyber Defence Reference – Handbook, National Cyber Safety and Security Standards, India, 2016.

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

| COs | Statements | K-Level |
|-----|--|------------|
| CO1 | Describe the information systems and possible threats to information systems | Understand |
| CO2 | Understand the various cyber hacking and cyber crimes | Understand |
| CO3 | Explore cyber crime investigation and punishment | Understand |

COURSE ARTICULATION MATRIX:

| POs COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | 2 | 1 | - | - | - | 2 | - | 2 | - | - | - | 2 | | |
| CO2 | 2 | 1 | - | - | - | 2 | - | 2 | - | - | - | 2 | | |
| CO3 | 2 | 1 | - | - | - | 2 | - | - | - | - | - | 2 | | |
| Correlation levels: 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High) | | | | | | | | | | | | | | |



SEMESTER VI

| | | | | | | |
|----------|---|----------------|---|---|---|---|
| U21MYC06 | INTRODUCTION TO UN-SDG'S: AN INTEGRATIVE APPROACH | Category: MNCC | | | | |
| | | L | T | P | J | C |
| | | 1 | 0 | 0 | 0 | 0 |

PRE-REQUISITES:

- Nil

COURSE OBJECTIVES:

- To provide information about the different UNSDGs and its importance
- To understand the general and accessible academic introduction to SDGs in all its facets
- To learn the interdisciplinary approach for various SDGs
- To understand several case studies

SYLLABUS:**UNIT I INTRODUCTION TO UN-SDG'S 3**

History and origins of the Sustainable Development Goals - aims, methodology and perspectives - Millennium Development Goals – Transformation Challenges – Structure of power and decision making

UNIT II TRANSFORMATION PATHWAY TO SUCCESS 3

Discussion and analysis of goals related to poverty, government and institution initiatives – hunger, challenges, food security - health & well-being – education – gender equality

UNIT III SUSTAINABILITY – AN ENGINEERING PERSPECTIVE 3

Discussion and analysis of goals in an engineering perspective related to affordable and clean energy - sustainable cities & communities - industry, innovation & infrastructure

UNIT IV SUSTAINABLE DEVELOPMENT 3

Discussion and analysis of goals related to peace, justice & strong institutions - clean water, climate, life below water and life on land - responsible production and consumption

UNIT V CASE STUDY 3

Case study: Agriculture and habits of local communities (SDG 2) - Modern Slavery and Children (SDG 8) - Hariyo Ban Project, Nepal (SDG 13) - Cooperation around Shared Water in the Jordan River (SDG 14)

Contact Periods:

Lecture: 15 Periods Tutorial: - Periods Practical: – Periods Project – Periods
Total 15 Periods

REFERENCES:

1. <https://sdgs.un.org/goals>
2. <https://www.unsdglearn.org/courses/>
3. <https://sdgacademylibrary.mediaspace.kaltura.com/home>
4. <https://2012-2017.usaid.gov/nepal/fact-sheets/hariyo-ban-project>

COURSE OUTCOMES:

Upon completion of the course, the student will be able to

| COs | Statements | K-Level |
|-----|---|------------|
| CO1 | Understand the importance of SDGs | Understand |
| CO2 | Develop knowledge on various academic insight to all its facets | Understand |
| CO3 | Relate various interdisciplinary approach to the SDGs | Understand |
| CO4 | Examine various case studies | Understand |

COURSE ARTICULATION MATRIX:

| POs COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | - | - | - | - | - | 2 | 3 | - | - | - | - | 1 | | |
| CO2 | - | - | - | - | - | 2 | 3 | - | - | - | - | 1 | | |
| CO3 | - | - | - | - | - | 2 | 3 | - | 2 | - | - | 2 | | |
| CO4 | - | - | - | - | - | 3 | 3 | - | 2 | - | - | 2 | | |
| Correlation levels: 1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High) | | | | | | | | | | | | | | |



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