REF. No: INU/NOT/REG/22-024 **Date:** November 15th, 2022

NOTIFICATION

Please find attached herewith the approved minutes of 15th meeting of the "Academic Council" (3rd Quarter) of the Faculty of Engineering & Applied Sciences held on Monday November 14th, 2022 at 10:00 am in conference room of the University; for your information and necessary action.

Registrar

REF. No: INU/NOT/REG/22-024 (1-22) **Date:** November 15th, 2022

Copy to:

- All members of the Council
- Concerned departments

Registrar

Iqra National University
Phase-II, Hayatabad Peshawar, Khyber Pakhtunkhwa
Phone: 091-5822897 UAN: 111-111-468

Ref.No: INU/NOT/REG/22-024 Date: November 15th, 2022

MINUTES OF THE 15th MEETING OF ACADEMIC COUNCIL

Presided over by: Vice Chancellor (Prof. Dr. Shah Jehan)
Held on: Monday November 14th, 2022
Time: 10:00 am.
Quarter: 3rd
Faculty: Engineering & Applied Sciences
Venue: Conference Room.
Agenda:

1. Confirmation of the minutes of 13th meeting of Academic Council.
2. Approval of the suggestions proposed by the Board of Studies and Board of Faculty of following teaching departments;
   - Department of Electrical Engineering.
   - Department of Civil Engineering.
   - Department of Computer Sciences (Peshawar and Swat campuses).
3. Any other items.

The following attended the meeting:

S.No.	Name	Designation	Representation
1	**Prof. Dr. Shah Jehan**	Vice Chancellor	**Chairman**
2	**Prof. Dr. Engr. M.A.Q Jehangir Khan Durrani**	Dean, Faculty of Engineering & Applied Sciences	**Deans of the Faculties**
3	**Prof. Dr. Jehangir Khan Khalil**	Dean, Faculty of Allied Health Sciences	**Professors**
4	**Prof. Dr. Adil Adnan**	Dean, Faculty of Management & Social Sciences	
5	**Prof. Dr. Engr. Sheeraz Ahmed**	Associate Dean FEAS/ Director ORIC	

6	**Prof. Dr. Liaqat Ali**	Department of Business Administration	
7	**Prof. Dr. Engr. Jehanzeb Khan**	Associate Dean (FEAS)/Controller of Examinations	**Examinations Department**
8	**Dr. Malik Taimur Ali**	Registrar	**Secretary**
9	**Dr. Engr. Sohail Imran**	Chairman, Department of Electrical Engineering	**Head of teaching Departments**
10	**Dr. Atif Ishtiaq**	Chairman, Department of Computer Science	
11	**Dr. Gulzar Mehmood**	Chairman, Department of Computer Sciences, (INU-Swat Campus)	
12	**Engr. Imtiaz Khan**	Acting Chairman, Department of Civil Engineering	
13	**Dr. Engr. Sheryar Shafique Qureshi**	Department of Electrical Engineering	**Members representing teaching departments**
14	**Dr. Muhammad Qasim**	Department of Computer Sciences	
15	**Dr. Engr. Zahid Ullah**	Department of Civil Engineering	
16	**Dr. Engr. Shahid Latif**	Department of Electrical Engineering (Engineering Management)	
17	**Dr. Engr. Yousaf Khan**	Associate Professor/Chairman, University of Engineering & Technology, Kohat Campus	**External Subject Expert** Electrical Engineering
18	**Prof. Dr. Zahoor Jan**	Chairman, Department of Computer Science, Islamia College University Peshawar	**External Subject Expert** Computer Science
19	**Dr. Engr. Mohsin Tahir**	Director	**Quality Enhancement Cell**
20	**Miss Farzana Farid**	Librarian	**Library**

The under mentioned members conveyed their inability to attend the meeting due to their pre occupation:

21	**Prof. Dr. Engr. Shaukat Ali Khan**	Pro-Vice Chancellor, Abasyn University, Peshawar	**External Subject Expert** Civil Engineering
22	**Engr. Muhammad Majid Naeem**	Department of Civil Engineering	**Members representing teaching departments**

The meeting started with recitation of few verses from the Holy Quran followed by a welcome note delivered by the Vice Chancellor.

1. **Confirmation of the minutes of 13th meeting of the Academic Council for Faculty of Engineering & Applied Sciences**:

The Registrar informed that the recommendations given by the members of 13th meeting of the Academic Council of Faculty of Engineering & Applied Sciences, held on Wednesday April 27th, 2022, were incorporated in the curriculums/scheme of studies and the revised copies of the same were attached as annexures with the meeting minutes. The minutes, approved by the Chairman of the Academic Council, were emailed to the members on May 31st, 2022.
Since no observations received from any of the members, the proceedings were confirmed as correctly recorded and the following resolution was passed unanimously.

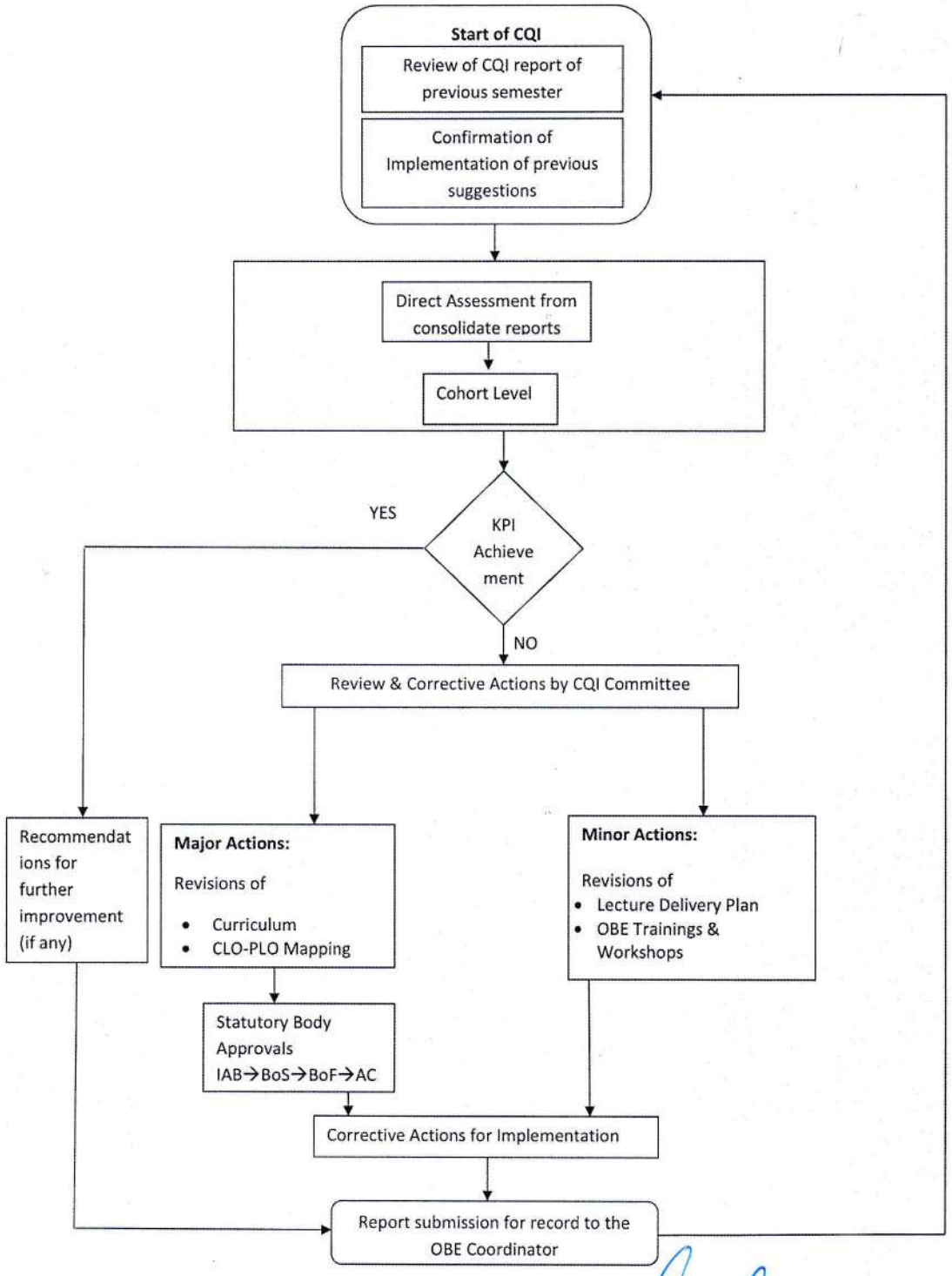
1.1. **Decisions:** "Resolved that the minutes of 13th meeting of the Academic Council of Faculty of Engineering & Applied Sciences held on Wednesday April 27th, 2022 along with its annexures be and is hereby confirmed as a true record of the proceedings as no observations have been received from any member".

. **Department of Electrical Engineering**:

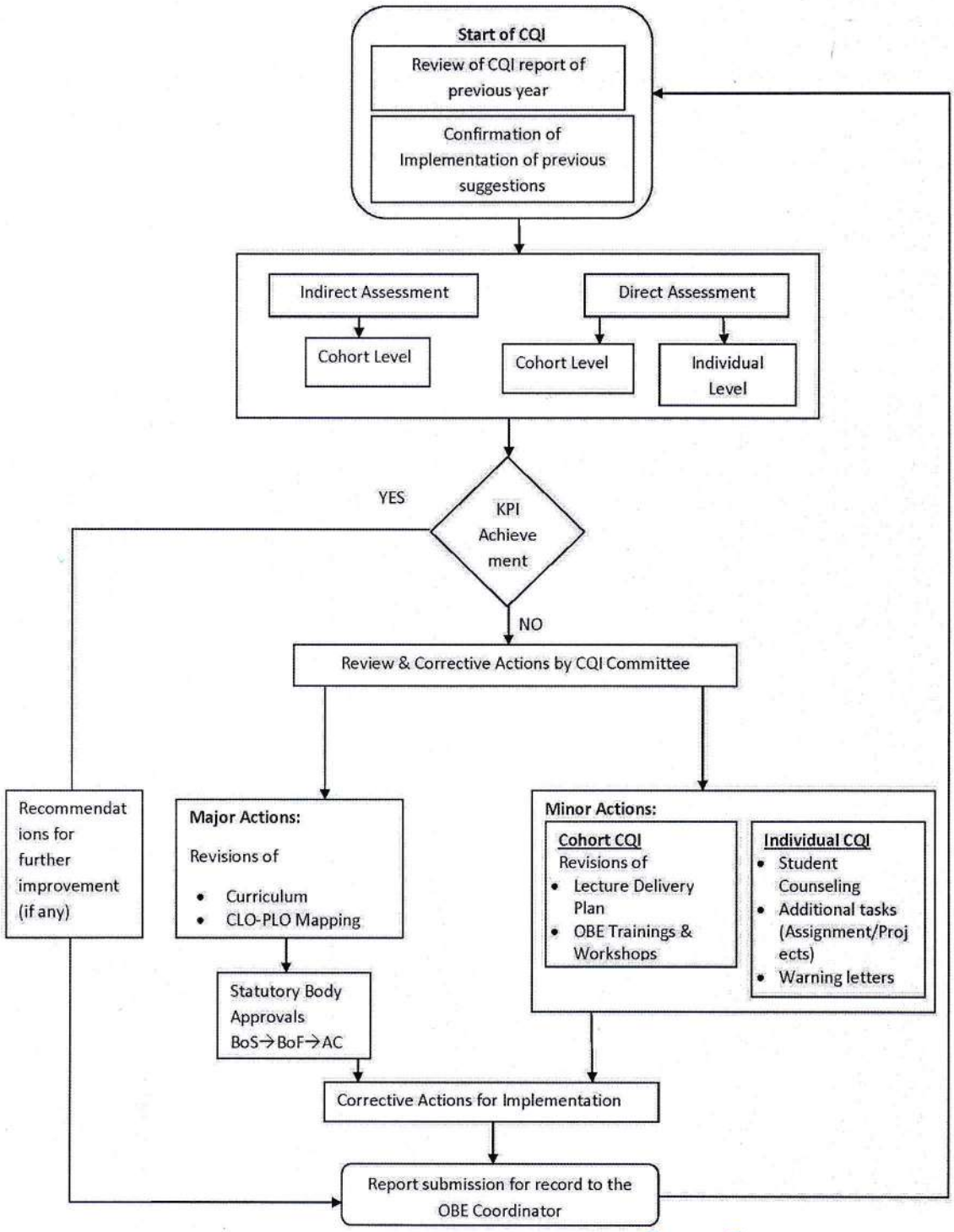
The Chairman of the Department of Electrical Engineering Dr. Engr. Sohail Imran Saeed presented the recommendations of the 15th meeting of Board of Faculty and 15th meeting of Board of Studies of Electrical Engineering held on October 25th, 2022 and September 13th, 2022 respectively. After detailed discussion the Council, in pursuance to Section 23 Subsection (2) of the Iqra National University Act-2011 accorded approval of the following academic affairs of the Department of Electrical Engineering;

S.No	Agenda Items
2.1	**Agenda 1: Updated CLOs of different Courses as Part of CQI Process.** **Description:** As part of the CQI process and in light of the suggestions made by the program evaluators from Pakistan Engineering Council (PEC) in their last visit, those courses which have low taxonomy levels and low PLO mapping with their defined CLOs, their CLOs were updated. Besides that, all those courses in which CEP is offered, an extra CLO is being added separately to evaluate the CEP. Following is the list of courses. 1. Data Structures & Algorithm 2. Linear Control Systems 3. Electric Machines 4. Professional Ethics 5. Signal & Systems 6. Digital Signal Processing 7. Entrepreneurship 8. Microcontroller system & interfacing 9. EMF 10. Power Generation 11. Power Transmission and Distribution 12. Linear Circuit Analysis 13. Electronic Circuit Design **Discussion:** The following suggestions/changes were made in each course by the external members; 1. Data structure: further improve the taxonomy level of CLO 1 and CLO 2. 2. CLO 4 of LCS: use the word "Real world problem" instead of "complex engineering problem". 3. Electric Machines: further improve the CLO 1, 2 and 4 and also combine the CLO 2 & 3. 4. Professional Ethics: remove CLO 3 and further improve the taxonomy levels of CLO 1 & 2. 5. Signal & Systems: revise CLO 1 and CLO 2 and also remove CLO 3. 6. Entrepreneurship: update CLO 1 & CLO 2. **BoS/BoF Decisions:** The aforementioned suggestions have been incorporated, moreover, include CEP rubrics with affective domain so that Viva examination should also be a part of CEP evaluation. **15th Academic Council Decisions:** The Council approved the updated CLOs prepared in light of the suggestions of BoS and BoF, the updated CLOs of the mentioned courses are attached herewith at **Annexure-1**.
2.2	**Agenda 2: Revised CQI Processes of CLO, PLO and PEO.** **Description:** The process of CQI for CLO, PLO and PEO which is evaluated after every semester, one year and 4 years of graduation respectively have been revised in order to make the process more refined and well structured. Following are the proposed flow-charts of the revised CQI cycles of CLO, PLO and PEO.

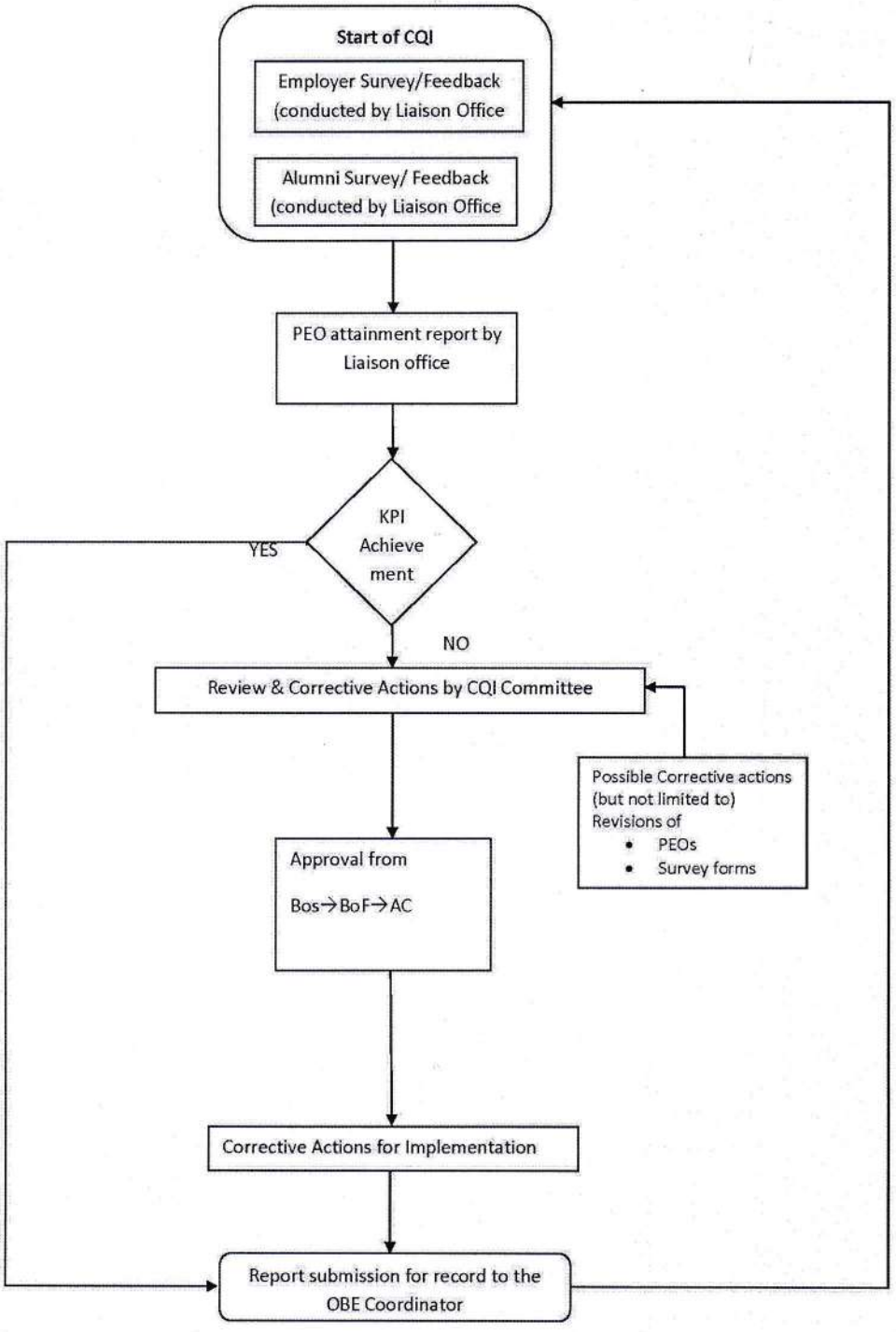
Revised CQI Process Flow Chart for CLO Evaluation



Revised CQI Process Flow Chart for PLO Evaluation



Revised CQI Process Flow Chart for PEO Evaluation



	BoS/BoF Decisions: The Board members agreed with proposed changes in the revised CQI cycles. **15th Academic Council Decisions:** The Council approved the revised CQI Processes of CLO, PLO and PEO prepared in light of the suggestions of BoS and BoF.
2.3	**Agenda 3: Revision of KPI's for PEO, PLO and CLO attainment.** **Description:** The department of Electrical Engineering is currently practicing the attainment of KPI for PEO, PLO and CLO attainment at 50%. Agenda was presented again to discuss whether further improvement is required in the approved KPI. **Discussion:** Dr. Engr. Yousaf Khan suggested that since no assessment of PEO attainment is done yet as it is performed after 4 years of OBE batch graduation so it is better to retain the defined KPI's for PEO, PLO and CLO at 50%. **BoS/BoF Decisions:** The Board members agreed with the suggestion put by Dr. Engr. Yousaf khan to not change/improve the KPI for PEO, PLO and CLO attainment. **15th Academic Council Decisions:** The Council approved the recommendations, of the BoS and BoF, regarding revision of KPI's for PEO, PLO and CLO attainment.
2.4	**Agenda 4: Sustainable Development Goals (SDG) Approval for Final Year Design Projects.** **Description:** As per the recommendations of the Pakistan Engineering Council, the Sustainable Development Goals (SDG) for Final Year Designed Projects (FYDP) have to be selected and approved from the United Nations defined SDGS for 2030. **Discussion:** The following SDGs are selected for the FYDP of the Department of Electrical Engineering; 1. Goal 7: Affordable and Clean Energy. 2. Goal 9: Industrial Innovation and Infrastructure. 3. Goal 11: Sustainable Cities & Communities. 4. Goal 12: Responsible Consumption and Production. 5. Goal 13: Climate Change. **BoS/BoF Decisions:** The Board members agreed with the desired SDGs and suggested to include them in the rubrics of FYDP. **15th Academic Council Decisions:** The Council approved the aforementioned Sustainable Development Goals (SDG) for Final Year Designed Projects (FYDP), recommended by the members of the BoS and BoF.
2.5	**Agenda 5: Approval of Direct and Indirect assessment contribution for formative and summative assessment process.** **Description:** Both the direct and indirect methods for the assessments of the outcomes are employed in the OBE

system. It is proposed that 90% of direct assessment and 10% of indirect assessment will be contributed as a summative and formative assessment in the final result of a student (PLO wise).

BoS/BoF Decisions:
The Board members suggested that the assessment of summative and formative assessment should be in the form of ranges i.e. from 80-90% and 10-20% respectively.

15th Academic Council Decisions:
The Council approved the recommendations of the BoS and BoF regarding direct and Indirect assessment contribution for formative and summative assessment process.

2.6 **Agenda 6: Revision of course code of Research Methodology for Engineers in a Postgraduate programs**

Description:
The course code of "Research Methodology for Engineers" course of MS and PhD degree programs shall be revised to "EEE-713".

BoS/BoF/ 15th Academic Council Decisions:
The members of the Boards and the Council approved the request for revision of course code of "Research Methodology for Engineers" course of MS and PhD degree programs to "EEE-713".

2.7 **Agenda 7: Addition of Foreign and Local Examiners for PhD Thesis Evaluation in the existing lists**

Description:
Following are the lists of examiners along with their affiliation and research areas that are added in the existing lists of foreign and local evaluators for PhD thesis.

***List of Foreign Examiners*:**

S. No	Name	Affiliation	Research Area
1.	**Dr. Sadaqat Ur Rehman**	Salford University, Manchester, UK	Machine Learning, IOT
2.	**Dr. Rafay Ansari**	Northumbria University, Newcastle, UK	Wireless communications and networks
3.	**Dr. Asif Iqbal**	National University of Singapore	Statistical Signal Processing, Deep Learning
4.	**Dr. Muhammad Khan**	University College of Birmingham, UK	5G Networks, Machine Learning, WSN, Network Optimization

***List of Local Examiners*:**

S.No	Name	Affiliation	Research Area
1.	**Dr. Idrees Afridi**	PTCL, Islamabad	Optical Communication
2.	**Dr. Amjad Ali**	UET, jalozai campus	Signal and Image Processing
3.	**Dr. Farhan Hussain**	NUST, Islamabad	Signal and Image Processing

			Integrated circuits
4.	**Dr. Javed Iqbal**	UET, Swat	Sensor Network/Electronics
5.	**Dr. Ashiq Hussain**	Air University, Islamabad	Optical Communications
6.	**Dr. Hidayat Ullah**	NUST, Risalpur campus	RF and Microwave array antenna designs for 5G and wireless applications
7.	**Dr. Mohsin Kamal**	National University of Computer and Emerging Sciences, Lahore	WSN, IoT, Cyber Security, Blockchain
8.	**Dr. Muhammad Kamran Saleem**	University of Central Punjab, Lahore	RF/MW/MMW antennas designs and structures
9.	**Dr. Abdul Aziz**	Islamia University Bahawalpur	Antennas Designing for wireless applications, Electromagnetic, MW, MM waves
10	**Dr. Haider Ali**	University of Technology, Nowshera	Antennas for wireless and satellite applications, array antennas
11.	**Dr. Muhammad Imran Malik**	Bahauddin Zakariya University, Multan	Wireless Communications
12.	**Dr. Iftikhar Rasheed**	Islamia University Bahawalpur	Wireless Communications, D2D, ML & AI for wireless networks

BoS/BoF/ 15th Academic Council Decisions:
The members of the Boards and the Council approved the addition aforementioned lists of foreign and local examiners, along with their affiliation and research areas, in the existing lists of foreign and local evaluators for PhD thesis.

3. **Department of Civil Engineering**:

The Acting Chairman/Head of Program of the Department of Civil Engineering, Engr. Imtiaz Khan presented the recommendations of the 15th meeting of Board of Faculty and 16th meeting of Board of Studies of Civil Engineering held on October 25th, 2022 and September 30th, 2022 respectively. After detailed discussion the Council, in pursuance to Section 23 Subsection (2) of the Iqra National University Act-2011 accorded approval of the following academic affairs of the Department of Civil Engineering;

S.No	Agenda Item
3.1	**Agenda 1: Civil Engineering (B.Sc) Scheme of Studies 2022** **BoF Discussion/ Recommendations:** The Board members were briefed about the changes suggested by the BOS and was requested for further modifications/amendments, if needed. Dr. Engr. Ali Sikandar suggested incorporating experiments related to mix design and also include OEL in this specific subject (Newly lab merged

	course). He further suggested including durability test in the newly merged course of LAB and also inquired about Consistency Test in the said course, and he was told that it is already included in the mentioned subject. **15th Academic Council Decisions:** Prof. Dr. Shaukat Ali Khan commented that both courses CE116 & CE126 have Labs related mostly to Concrete Technology. If a course on Concrete Technology is separately taught then it is more appropriate to teach about materials other than Concrete. Moreover, he commented that in the Scheme of Study in "Reinforced Concrete Design-1" course the lab seems to be covered in Concrete Technology course. For "Reinforced Concrete Design-2" he suggested 1 credit hour lab, with design exercises in Computer Lab, which can also be used in the Complex Engineering Problem. The members of the Council approved the recommendations regarding "B.Sc. Civil Engineering Scheme of Studies 2022 and list of experiments for newly merged course (CEM & Concrete LAB)" also attached herewith as **Annexure-2**.
3.2	**Agenda 2: Revised CLO/PLO Draft** **BoF Discussion/ Recommendations:** As per previous recommendations all the taxonomy levels were revised. Dr. Engr. Ali Sikandar asked about the lower taxonomy level in first two semesters. Dr. Engr. Zahid Ullah replied that PEC in its last visit recommended starting from basic in the start of program and increase the taxonomy level in 4th & 5th semester. Dr. Engr. Sohail Imran added to revise the Taxonomy level of "Introduction to Computer". **15th Academic Council Decisions:** Prof. Dr. Shaukat Ali Khan commented the following; a) PLO 8 and 11 may be mapped to more courses. b) None of the Labs is mapped to Safety. Health and safety is an important aspect of engineering education. c) Semester-1: "English Communication Skills": No emphasis on oral English skills is observed. d) Semester-1: "English Communication Skills": CLO-2 can be made related to oral skills and assessed in affective domain. e) Semester-1: "English Communication Skills": PLO10 is not Problem Analysis. f) Semester-1: "Applied Calculus": The action verbs Define is level 1 and Explain is level 2. g) Semester-1: "Basic Electro Mechanical Engineering": All CLOs and probably the course contents are not pertaining to Electro-Mechanical Engineering. The title "Basic Electrical & Mechanical Engineering is more appropriate". Kindly get this checked by an Electrical Engineer. h) Semester-1: "Islamic Studies": Kindly check if any change in the syllabus of these courses is allowed or not? i) Semester-1: "Civil Engineering Materials": CLO 1: Action verb with higher taxonomy than level 1. j) Semester-1: "Civil Engineering Materials": CLO 2: Two action verbs of different taxonomy level used. k) Semester-2: "Introduction to Computer Programming (Lab)": CLO 1: Two action verbs of different taxonomy level used. l) Semester-2: "Introduction to Computer Programming (Lab)": CLO 1: Programming tasks will be cognitive. Using functionality of various programming application can be Psychomotor. m) Semester-2: "Pakistan Studies": Mapping of all CLOs to PLO 6 in this course doesn't seem to be appropriate. n) Semester-3: "Mechanics of Solids-1": CLO 3: Two action verbs of different taxonomy level used. o) Semester-3: "Quantity Surveying and Estimation": CLO 4: Psychomotor seems inappropriate. p) Semester-4: "Mechanics of Solids II (Lab)": CLO 1: Two action verbs of different taxonomy level used. q) Semester-4: "Advanced Engineering Surveying": CLO 1: Two action verbs of different taxonomy

	level used. r) Semester-4: "Advanced Engineering Surveying (Lab)": CLO 2: Two action verbs of different taxonomy level used. You can use "Prepare plots of lab and field works in a field book". s) Semester-4: "Differential Equations": CLO 1: Two action verbs of different taxonomy level used. t) Semester-5: "Structural Analysis-II": CLO 1: Two action verbs of different taxonomy level used. u) Semester-5: "Soil Mechanics": CLO 1: Two action verbs of different taxonomy level used. v) Semester-5: "Structural Analysis-II": CLO 1: Two action verbs of different taxonomy level used. w) Semester-5: "Professional Ethics": PLO 12: Seems inappropriate. Kindly compare with the definition of PLO 12. x) Semester 6: "Geotechnical & Foundation Engineering Lab": CLO 2: Two action verbs of different taxonomy level used. y) Semester-6: "Disaster Management": PLO 12: Seems inappropriate. Kindly compare with the definition of PLO 12. z) Semester-6: "Highway & Traffic Engineering": CLO 1and 2: Two action verbs of different taxonomy level used. aa)Semester-6: "Highway & Traffic Engineering Lab": CLO 1: Two action verbs of different taxonomy level used. bb) Semester-6: "Hydraulic Engineering": CLO 1and 3: Two action verbs of different taxonomy level used. cc)Semester-6: "Reinforced Concrete Design-I": CLO 2: Two action verbs of different taxonomy level used. dd) Semester-6: "Technical Report Writing and Presentation Skills": CLO 3: may be mapped to ethics instead of communication if desired. ee)Semester-7: "Water Supply Engineering": CLO 2: Two action verbs of different taxonomy level used. ff) Semester-7: "Reinforced Concrete Design-II": CLO 1: Two action verbs of different taxonomy level used. gg) Semester-7: "GIS RS Application for Civil Engineer (Lab)": CLO 1 and 2: Two action verbs of different taxonomy level used. hh) Semester-7: "Final Year Project (Part-1)": CLO 4,6 and 8: Two action verbs of different taxonomy level used. ii) Semester-8: "Waste Water Engineering": CLO 1 and 2: Two action verbs of different taxonomy level used. jj) Semester-8: "Hydraulic Structures": CLO 3: Two action verbs of different taxonomy level used. kk) Semester-8: "Introduction to Structural Dynamics and Earth Quake Engineering": CLO 1: Two action verbs of different taxonomy level used. CLO 3: Taxonomy level seems low. ll) Semester-8: "Project Planning and Management (Lab)": CLO 1: Two action verbs of different taxonomy level used. mm) Semester-8: "Final Year Project (Part- II)": CLO 4, 6 and 8: Two action verbs of different taxonomy level used. The members of the Council approved the recommendations regarding revised CLO/PLO draft attached herewith as **Annexure-3**.
3.3	**Agenda 3: Review of CQI (PEOs, CLOs, PLOs)** **BoF Discussion/ Recommendations:** Dr. Engr. Ali Sikandar suggested developing common charts of CQI for both Civil Engineering and Electrical Engineering Departments as it is implemented by QEC and DEAN. **15th Academic Council Decisions:** The members of the Council approved the recommendations of the BoF regarding CQI (PEOs, CLOs, PLOs) charts attached herewith as **Annexure-4**.

3.4	**Agenda 4: FYDP Assessment and Rubrics** **BoF Discussion/ Recommendations:** Dr. Engr. Sohail Imran suggested as some of the design/simulation tools are used in FYDP therefore it is recommended to incorporate PLO-05. Dr. Engr. Ali Sikandar suggested that FYDP should be made open hall and also some marks may be allotted to Co-Supervisor (From Field/Industry). He further suggested simplifying/revise the weightage of FYDP and focus must be given to design of prototypes and engineering services. He added that all 12 PLOs must be incorporated in FYDP but Prof. Dr. Engr. Shaukat Ali Khan disagreed to it. **15th Academic Council Decisions:** The members of the Council approved the recommendations of the BoF regarding revised FYDP Assessment, Rubrics and Proposal Template attached herewith as **Annexure-5**.
3.5	**Agenda 5: Departmental Clearance Form/Certificate** **BoF Discussion/ Recommendations:** Dr. Engr. Ali Sikandar suggested to provide more space for remarks section. Dr. Engr. Zahid Ullah replied that only signature is enough to conclude idea about the project completion. Dr. Engr. Sohail Imran suggested as all the points which are mentioned on DCF/DCC is already there in checklist form for students except point 1 and 2, so it is recommended to include the first two points in the check list. **15th Academic Council Decisions:** The members of the Council approved the recommendations of the BoF regarding Departmental Clearance Form/Certificate attached herewith as **Annexure-6**.
3.6	**Agenda 6: Industrial Advisory Board members, Internship and Consultancy** **BoF Discussion/ Recommendations:** Head of Program briefed all the members that one of the IAB members requested to be replaced and contractor will be now included in IAB. Dr. Engr. Ali Sikandar suggested including members from Public Health Engineering and Irrigation departments. Prof. Dr. Engr. Jehanzaib Khan suggested quorum must be identified for IAB meeting to be done. He further suggested to club the consultancy with ORIC for commercialization of LABS/ Consultancy. Dr. Engr. Ali Sikandar suggested mentioning of CDC in internship mechanism. **15th Academic Council Decisions:** Prof. Dr. Engr. Shaukat Ali Khan commented that It will be more appropriate that the Industry Liaison Office should issue internship letter, to show that internship is an institutionalized feature. Moreover, in the internship letter replace the term "OBE System" with Washington Accord requirements or PEC Accreditation requirements because the OBE System doesn't requires the need for internship. He added that in the "Student Internship Evaluation Form" under S.No. 4 PLO 4 and 3 are abilities too high to be assessed in an internship of students who have only passed the second year of engineering program. The members of the Council approved the recommendations regarding Industrial Advisory Board members and Internship Policy attached herewith as **Annexure-7**, however, due to ambiguities in the "Rules for Consultancy Work by the Academic Staff" and involvement of finances, the Council didn't approved it and advised to get its approval from the Finance & Planning Committee first.

4. **Department of Computer Science (Peshawar and Swat Campuses)**:

The Chairman of the Department of Computer Science-INU Peshawar Campus Dr. Atif Ishtiaq and INU Swat Campus Dr. Gulzar Mehmood presented the recommendations of the 15th meeting of Board of Faculty and 15th meeting of Board of Studies of Computer Science held on October 25th, 2022 and October 3rd, 2022 respectively. After detailed discussion the Council, in pursuance to Section 23 Subsection (2) of the Iqra National University Act-2011 accorded approval of the following academic affairs of the Department of Computer Science;

S.No.	Agenda Items
Department of Computer Science (Peshawar Campus)	
4.1	**Agenda 1: Improvement of Course Outcomes with appropriate Learning Levels as per NCEAC requirements** **Description:** For the improvement of Course Outcomes the department has to take into consideration the Learning Levels, therefore, it must be the Course Learning Outcomes that needs to be worked on. The National Computing Education Accreditation Council (NCEAC) has adopted exactly same OBE system that has already been adopted by the Pakistan Engineering Council (PEC) and sooner or later all the universities would be adapting the OBE Grading Model. **BoF Decisions:** The Computer Science department and Quality Enhancement Cell will organize multiple Outcome Based Education OBE training sessions for CS faculty members. The Program Learning Outcomes PLOs of the offered programs must be finalized and Course Learning Outcomes CLOs of all the offered courses should be mapped to the PLOs. The faculty should be trained to use the system and should learn to implement it on Excel Sheets. Once the faculty members' gets hold of the system through MS Excel, the next step will be to go for OBE software. The members also suggested visiting IBM website for trainings. **15th Academic Council Decisions:** The members of the Council approved the recommendations of the BoF regarding "Improvement of Course Outcomes with appropriate Learning Levels as per NCEAC requirements".
4.2	**Agenda 2: Feedback Mechanism for Students' Internships** **Description:** The department is placing its students for internships and the Career Development Cell CDC is maintaining feedback mechanism and keeping the record of these students. **BoF Decisions:** Members decided that the department should maintain the internship records of all its students. **15th Academic Council Decisions:** The members of the Council approved the recommendations of the BoF regarding "Feedback Mechanism for Students' Internships" and strictly advised that as per the HEC rules internship is mandatory and should be offered to all the students and proper records should be maintained.
4.3	**Agenda 3:** Final Year Project supervision and Lab workload

	Description: The National Computing Education Accreditation Council NCEAC has advised that the FYP and Lab workload must be taken into workload of the faculty or should be remunerated. The Higher Education Commission HEC suggests 12 credit hours for Lecturer, 9 credit hours for Assistant Professor, 6 credit hours for Associate Professor and 3 credit hours for Professor. NCEAC suggests 9 credit hours should be offered to Lecturer. FYP and Lab is taken as 0.5 Credit Hours. In the last visit of NCEAC, the team members suggested that the newly hired teaching faculty members, with MS qualification, should be termed as Junior Lecturer, who should be responsible for taking Lab classes. **BoF Decisions:** The members advised that lecturers should be allocated 9 credit hours teaching workload and Lab/FYP should be adjusted as additional 3 credit hours, which will not cross the minimum 12 credit hours workload limit set by the HEC. **15th Academic Council Decisions:** The members of the Council approved the recommendations of the BoF regarding "Final Year Project supervision and Lab workload".
.4	**Agenda 4: Establishment of the "Subject Expert Committee"** **Description:** There should be a committee of 3 to 4 faculty members who should decide about the courses to be taught in a semester. The committee would be responsible to select different courses for a specific span of time. **BoF Decisions:** The members decided that the committee will select a specific set of subjects from the pool of courses for minimum of 2 years duration. **15th Academic Council Decisions:** The members of the Council informed that it is the discretion of the department to form such committees for the welfare of the students, therefore, no need to bring it to the Academic Council for approval.
4.5	**Agenda 5: Eligibility criteria for MS Plan B students undertaking admission in PhD Computer Science** **Description:** Whether the students having MS degree with Plan B (non-research) should be allowed to take admission in PhD program because after Fall 2017 the HEC has banned such students from taking admission in the PhD programs. **BoF Decisions:** The Director Quality Enhancement Cell of the INU informed that as per the directives of Mr. Abaidullah Anwar (Deputy Director, Quality Assurance Agency, QAA HEC) the students who have obtained Master's degree with Plan B (Non-Research) can obtain admission in PhD but all such students should publish a research paper as a first author. **15th Academic Council Decisions:** The members of the Council advised that in order to maintain the quality of education and research at University, the students with MS Plan-B i.e. non research background should be discouraged from taking admission in PhD programs.
Department of Computer Science (Swat Campus):	
4.6	**Agenda 6: Proposal for Launching of new degree Programs at BS, MS and Diploma level**

	Description: The BS Software Engineering, BS Data Sciences and BS Cyber Security degree programs are already approved from the BoS of the main campus Peshawar; however, BS Artificial Intelligence degree program requires approval from the BoS, BoF and Academic Council. The Director Quality Enhancement Cell informed that a sub campus can launch a degree program only after it has been launched in the main campus. He added that for launching of MS and PhD degree programs issuance of NOC by the Higher Education Commission Islamabad is mandatory. **BoF and 15th Academic Council Decisions:** The main campus and the sub campus should collectively work for the launching of BS Artificial Intelligence, BS Cyber Security and BS Data Sciences degree programs subject to the grant of permission by the NCEAC. The INU Swat campus may start BS Software Engineering program after obtaining permission from the Higher Education Commission, Islamabad. Similarly for launching of MS degree programs in the relevant fields, the INU Swat Campus should apply to the HEC for issuance of NOC. The members deferred the proposal for launching of short diploma courses until proper admission criteria is developed and until it is decided that between HEC and Technical Board who will attest the diploma?
'.7	**Agenda 7: Suggestion for updating of CS elective courses pool** **Agenda 8: Batch Advisors for students of BSCS Swat** **Agenda 9: Departmental IAB committee creation** **Agenda 10: Rules and regulations for FYP** **Agenda 11: Any contemporary issue (a. Keeping record of Graduated Students) and (b. NCEAC visit for Swat Campus)** **15th Academic Council Decisions:** The members of the Council informed that the Agenda Item No. 7 to 11 are routine departmental matters, if the main campus Peshawar has already obtained approval of these agenda items and if it's in their practice then there is no need for obtaining re-approval for the sub campus. Yes, if any kind of clarification is needed, you can take it to the departmental Board of Studies. Moreover, the members of the Council emphasized once again that the INU-Swat Campus should immediately apply to the National Computing Education Accreditation Council (NCEAC) for visit and accreditation of the degree programs.

The meeting ended with a vote of thanks by the Chair.

Minutes **approved** by

Prof. Dr. Shah Jehan
(Vice Chancellor)

Minutes **recorded** by

Dr. Malik Taimur Ali
(Registrar/Secretary)

Copy to:

- All members of the Council (for information, please)
- Concerned departments (for information and necessary action, please)

Annexure-1

Updated CLOs and PLOs of The B.Sc. Electrical Engineering Courses

S.no	Course Name	Previous CLOs with taxonomy level and PLO Mapping	Updated CLOs with taxonomy level and PLO Mapping
1.	Data Structures & Algorithms	1. **Explain, interpret, compare** and apply different algorithms and data structures to a particular situation, understand and program abstract data types such as Arrays, Lists and Queues with common searching and sorting algorithms **[C3 PLO 1].** **2. Implement** and debug small-to-moderate programs to manipulate and manage data elements while exhibiting the object-oriented programming skills. Understanding of fundamental Data Structures including various notations (infix, postfix and prefix), trees, binary search trees, stacks. **[C5 PLO 3].**	1. Compare and **apply** different algorithms and data structures to a particular situation, understand and program abstract data types with common searching and sorting algorithms **[C3 PLO 2].** **2. Implement** and debug small-to-moderate programs to manipulate and manage data elements while exhibiting the object-oriented programming skills. **[C4 PLO 3].**
2.	Linear Control Systems	1. **State** the fundamentals of control systems and possess knowledge regarding the modeling of physical systems **[C1, PLO 1].** 2. **Interpret** control systems based on transfer function and state space form **[C3, PLO 2].** **3. Investigate** system stability based on Routh Hurwitz criteria, Root locus, Nyquist criterion and Bode plot**[C4, PLO4].**	1. **Describe** the fundamentals of control systems and possess knowledge regarding the modeling of physical systems **[C2, PLO 1].** 2. **Interpret** control systems based on transfer function and state space form **[C3, PLO 2].** **3. Investigate** system stability based on Routh Hurwitz criteria, Root locus, Nyquist criterion and Bode plot **[C4, PLO 4].** **4. Devise** solution for a real world problem using knowledge acquired in the course **[C5, PLO 6]**
3.	Electrical Machines	1. **Define** the knowledge about fundamental physical laws governing and working of electromagnetic circuits. **[C1, PLO 1]**. **2. Explain** the working of linear machine as generator, motor and transformer by applying basic electromagnetic laws on them. **[C2, PLO 2].** 3. **Compute** the various parameters of generators and motors, their equivalent circuits, the relationships between speed,	1. **Explain** the fundamental physical laws governing and working of electromagnetic circuits. **[C2, PLO 1]** 2. **Demonstrate** the understanding of the working and computation of parameters for generator, motor and transformer by

		power, torque, and applications. **[C3, PLO 3].**	applying basic electromagnetic laws on them. **[C3, PLO 2]** 3. **Design** electrical components for any given real-world scenario using knowledge acquired in the course. **[C5 , PLO 3]**
4.	Professional Ethics	1. **Describe** legal and professional definitions of ethics. Identify the laws dealing with engineering ethics and code of ethics of a professional society; what makes an ethical engineer. Discuss the historical, legal, professional and personal reasons, why engineering ethics exists, and discuss the consequences of acting ethically and unethically. **(C1, PLO 8)** 2. **Conform & understand** Six Pillars of Character, comply with Values of character with actions, express ethical dilemmas, formulate possible actions that can be taken in response to a given ethical dilemma, and evaluate the probable consequences of these actions,Rules of practice of professional engineers and Professional obligations of engineers.**(A2, PLO 6).**	1. **Demonstrate** the understanding of the basics of engineering ethics and related theories. **(C3, PLO 6)** 2. **Practice** the acquired knowledge of ethical skills and ethical dilemmas **(C3, PLO 8)**
5.	Signal & Systems	1. **State** fundamentals of the course and distinguish between different types of signals, their representation and transformation **[C1, PLO 1].** **2.** Discuss LTI systems and **extend** concepts such as convolution to both continuous and discrete time systems. **[C2, PLO 2].** **3. Solve** engineering problems using transformation methods **[C3, PLO 3].**	1. **Illustrate** the knowledge of different types of continuous and discrete time signals and systems. **[C3, PLO 2].** **2. Use** system tools especially convolutions and transformations to determine the behavior of continuous and discrete time signals and systems **[C3, PLO 2].**
6.	Digital Signal Processing	1. **Explain** the concept of Discrete time Signal and systems in terms of different signal operations **[C2, PLO 1].** 2. **Apply** the knowledge of signal processing in order to perform the analysis of different Discrete time signal and systems **[C3, PLO 2].** **3. Analyze** design problems related to frequency selective filters and FIR/IIR filters **[C4, PLO 3].**	1. **Explain** the concept of Discrete time Signal and systems in terms of different signal operations **[C2, PLO 1].** **2. Apply** the knowledge of signal processing in order to perform transforms for the analysis of different Discrete time signal and systems **[C3, PLO 2].** **3.** Utilize different techniques to **design**

			frequency selective filters and digital filters. **[C5, PLO 3].** **4. Investigate** the design problems related to frequency selective filters and FIR/IIR filters **[C6, PLO 4].**
7.	Entrepreneurship	1. **Focus** onnature, background characteristics of entrepreneurship, role models, decision making skills and leadership characteristics**. [A1, PLO 9].** 2. **Cite** methods of generating ideas, preparing business plan, industry and competitors' analysis, preparing marketing plan. **[A2, PLO 12].** 3. **Build** and develop management team, organization setup, financing the business, managing new projects, preparing growth strategies. **[A4, PLO 9].**	1. **Explain** the nature, background characteristics of entrepreneurship, role models, decision making skills and leadership characteristics. **[C2, PLO 9].** **2. Prepare** business plan, industry and competitor analysis, preparing marketing plan**.** Organize and develop management team, organization setup, financing the business, managing new projects, preparing growth strategies**. [C4, PLO 12].**
8.	Micro-controller system & interfacing	1. Understanding the basics and fundamental concepts about the operation, usage, architecture and **identify** internal registers of microcontroller. **[C1 PLO 1].** **2.** Use high-level languages to program microcontrollers for complex tasks, effectively utilize microcontroller peripherals, Perform button actions, timer programming, serial port programming, interrupts and interrupt programming, Interface a microcontroller to various devices such as LCD, Desktop computer, Motors. **Analyze** the requirements provided by a user for the design of an embedded system. **[C4 PLO 2].** **3. Compile** and submit the detail report of your semester lab project. **[C5 PLO 11]**	1. **Explain** the fundamental concepts of operation, usage, architecture and internal registers of microcontroller. **[C2 PLO 1].** **2. Analyze** the design of embedded systems and use high-level languages to program microcontrollers. **[C4 PLO 2].** **3. Construct** a design project related to the knowledge obtained during the course using high-level language. **[C6 PLO 3].**
9.	EMF	1. **Describe** basics of electric and magnetic field and their property for different objects in term of vector analysis. **(C2, PLO1).** **2. Illustrate** the Nature of magnetic and electric field and forces based on different laws and theorems**. (C3, PLO1).** **3. Demonstrate** the theoretical background of Maxwell's equations and electromagnetic wave concepts. **(C3, PLO1)**	1. **Explain** the concepts of Scaler, Vectors, their operations and different coordinate systems involved in the understanding of electromagnetic field. **(C2, PLO 1).** **2. Illustrate** the concept of electric and magnetic fields

			using different laws and theorems **(C3, PLO 2).**
10.	Power Generation	1. **Describe** concepts related to various technologies of power generation. **[PLO 1, C1]** **2.** To **Solve** the economical and operational calculations involve in electrical energy production. **[PLO 2, C3].** **3. Describe** concepts related to various Renewable and Sustainable Energy technologies. **[PLO7, C1].**	1. **Explain** the concepts related to various technologies of power generation. **[C2, PLO 1]** **2.** To **Solve** the economical and operational calculations involved in electrical energy production. **[C3, PLO 2]** 3. **Develop** concepts related to various Renewable/ Sustainable Energy technologies and their impacts on environment. **[C5, PLO 7]**
11.	Power Transmission and Distribution	1. **Define** the necessary theoretical knowledge for basic and advanced concepts in mechanical and electrical parameters of Power transmission and distribution systems **[C1, PLO 1].** 2. Apply different types of transmission and distribution circuits to measure voltage, current, power and power factor and connection in residential electrical wiring panel from services mains to different distribution boards and electrical points **[C2, PLO 2]**. 3. **Contribute** to solve problem through logical reasoning both in individual capacity and team work **[C4, PLO 3]**.	1. **DISCUSS** the necessary theoretical knowledge for basic and advanced concepts in Electric power transmission and distribution**. [C2, PLO 1].** 2. **DEMONSTRATE** the mechanical parameters and design of transmission and distribution lines and towers. **[C3, PLO 2]** 3. **COMPARE** the electrical models for short, medium and long transmission lines. **[C4, PLO 3]**
12.	Linear Circuit Analysis	1. **Apply** circuit reduction techniques such as series, parallel, source conversion, circuit solving techniques like Node, Mesh analysis, Norton theorem and Thevenin's theorem **[C1 PLO 1].** 2. **Define** RC and RL circuits for DC transient response. Operational amplifiers basic configuration and its circuit analysis. Summing and difference amplifiers and amplifier type **[C1 PLO 2].**	1. **Illustrate** the understanding of ohm's law-based circuit solving and reduction techniques and theorems **[C3, PLO 1].** 2. **Analyze** RC and RL circuit for DC transient response, operational amplifiers basic configuration and amplifier types based on op-amps **[C4, PLO 2].**
		1. **Discuss** transistor as an amplifier and its hybrid model **[C2, PLO 1].**	1. **Demonstrate** the basic understanding and

13.	Electronic Circuit Design	2. **Analyze** electronic circuit based on operational amplifier, feedback amplifiers, filters and oscillators **[C4, PLO 2].**	operation of transistors **[C2, PLO 1].** 2. **Construct** and examine small signal and power amplifier networks **[C5, PLO 2].** 3. **Analyze** various small scale electronic circuits using operational amplifiers **[C4, PLO 3].**

Annexure-2

B.Sc. Civil Engineering Scheme of Studies 2022

Semester 1

S. No:	Course Code	Course Title	Credit Hrs Th	Prat
1	BH-111	English Communication Skills	3	0
2	NS-112	Applied Calculus	3	0
3	CE-113	Engineering Drawing for Civil Engineers	1	1
4	EE-114	Basic Electro Mechanical Engineering	2	1
5	BH-115	Islamic Studies	2	0
6	CE-116	Civil Engineering Materials	2	1
TOTAL			13	3
			16	

Semester 2

S. No:	Course Code	Course Title	Credit Hrs Th	Pract
1	CS-121	Introduction to Computer Programming	0	1
2	CE-122	Engineering Mechanics	3	1
3	CE-123	Introduction to Architecture and Town planning	2	0
4	BH-124	Pakistan Studies	2	0
5	CE-125	Concrete Technology	2	1
7	CE-126	Engineering Geology	3	0
TOTAL			12	3
			15	

Semester 3

S. No:	Course Code	Course Title	Credit Hrs Th	Pract
1	CE-211	Engineering Surveying	3	1
2	CE-212	Civil Engineering Drawing and Graphics	0	2
3	CE-213	Mechanics of Solids-I	3	0
4	CE-214	Quantity Surveying and Estimation	3	0
5	NS-215	Numerical Analysis	3	0
6	CE-216	Construction Engineering	3	0
TOTAL			15	3
			18	

Semester 4

S. No:	Course Code	Course Title	Credit Hrs Th	Pract
1	CE-221	Mechanics of Solids-II	3	1
2	CE-222	Structural Analysis-I	3	0
3	CE-223	Advanced Engineeering Surveying	3	1
4	CE-224	Fluid Mechanics	3	1
5	NS-225	Differential Equations	3	0
TOTAL			15	3
			18	

Semester 5

S. No:	Course Code	Course Title	Credit Hrs Th	Prac
1	CE-311	Structural Analysis-II	3	0
2	CE-312	Advanced Fluid Mechanics	3	1
3	CE-313	Soil Mechanics	3	0
4	BH-314	Professional Ethics	2	0
5	CE-315	Transportation Planning & Engineering	3	0
6	CE-316	Reinforced Concrete Design-1	3	0
TOTAL			17	1
			18	

Semester 6

S. No:	Course Code	Course Title	Credit Hrs Th	Pract
1	CE-321	Geotechnical & Foundation Engineering	3	1
2	CE-322	Environmental Engineering-I	2	0
3	CE-323	Pavement Planning , Materials & Design	2	1
4	CE-324	Hydraulic Engineering	2	0
5	BH-325	Technical Report Writing and Presentation Skills	2	0
6	CE-326	Reinforced Concrete Design-II	3	0
7	CE-327	Entrepreneurship for Engineers	1	0
TOTAL			15	2
			17	

Semester 7

S. No:	Course Code	Course Title	Credit Hrs Th	Pract
1	CE-411	Traffic Engineering & Geometric Design	3	0
2	NS-412	Probabiltiy and Statistics	3	0
3	CE-413	Environmental Engineering-II	2	1
4	CE-414	Hydrology and Water Management	3	0
5	CE-415	Geoinformatics	1	1
6	CE-416	Civil Engineering Software Application	0	1
7	CE-417	Final Year Design Project (Part-I)	0	3
TOTAL			12	6
			18	

Semester 8

S. No:	Course Code	Course Title	Credit Hrs Th	Pract
1	CE-421	Steel Structures	3	0
2	CE-422	Irrigation Engineering	3	0
3	CE-423	Introduction to Structural Dynamics and Earthquake Engineering	3	0
4	CE-424	Project Planning and Management	3	1
5	CE-425	Sustainable Development and Management	2	0
6	CE-426	Final Year Design Project (Part-II)	0	3
TOTAL			14	4
			18	
Total			138	

List of Experiments
Concrete Technology Lab

S.No.	Experiment name
	Fresh Concrete
1	To determine the workability of concrete using slump test.
2	To determine the workability of concrete by vee bee consistometer.
3	Standard test method of compaction factor test for workability.
4	Standard test method of freshly mixed concrete by air content apparatus to find Air pressure.
	Non-Destructive test
5	Standard test method for strength of concrete by rebound hammer.
6	Standard test method for quality of concrete by ultrasonic pulse velocity.
	Destructive test
7	Compressive strength of concrete cylinder by UTM
8	Compressive strength of concrete cube by UTM
9	Splitting Tensile Strength of concrete cylindrical Specimen on UTM
10	Concrete flexure strength by central point loading
11	Concrete flexure tensile strength by three point loading
	Ductility test
12	Rapid Chloride Ion Permeability Test
13	Acid/Sulphate Attack Test

List of Experiments
Civil Engineering Materials Lab

S.No	Experiment name
	Cement
1	Standard test method for fineness of cement.
2	Standard test method for Normal consistency
3	Standard test method for initial and final consistency
4	Standard test method for fineness of hydraulic cement By air permeability apparatus.

Fine aggregate	
5	Standard test method for specific gravity and absorption of fine aggregate
6	Standard test method for gradation of fine aggregate
7	Standard test method to find organic impurities in fine aggregate
Coarse aggregate	
8	Standard test method for specific gravity and absorption of coarse aggregate
9	Standard test method for gradation of coarse aggregate
10	Dry rodded unit weight of coarse aggregate
11	Impact value test for coarse aggregate
Bricks test	
12	Standard Test Methods for Water Absorption of Bricks
13	Standard test method for Efflorescence in Brick
14	Standard test method for compressive strength of Bricks.

Annexure-3

Revised CLO PLO Draft (Annexure 2)

Subjects	CLOs #	CLO Statements	CLO Domain	Taxonomy Level	PLO #	PLO Description
Semester # 1						
English Communication Skills	1	Apply basics of grammar, parts of speech and use of articles by written work	Cognitive	3	10	Communication
	2	Exprress skills to use English in professional life.	Cognitive	3	10	Communication
	3	Analyze phrases, clause and sentence structure given in a statement / proble.	Cognitive	4	10	Probelm Analysis
Applied Calculus	1	Define & Explain the basic concept of single variable function, limits and continuity, derivatives, integration and multivariate functions.	Cognative	1	1	Engineering Knowledge
	2	Apply the acquired knowledge to solve problems of practical nature.	Cognative	3	2	Probelm Analysis
Engineering Drawing for Civil Engineers	1	ILLUSTRATE the basic concepts of engineering drawings for simple objects	Cognative	3	1	Engineering Knowledge
	2	EXPLAIN fundamentals of architectural drawings for simple structures	Cognative	2	1	Engineering Knowledge
Engineering Drawing for Civil Engineers (Lab)	1	Practice the tasks related to engineering drawing.	Psychomotor	3	9	Individual and Team Work
	2	Describe basic concepts of engineering drawing.	Cognitive	2	2	Problem Analysis
	3	Communicate and answer freely of concepts related to engineering drawing	Affective	2	10	Communication
Basic Electro Mechanical Engineering	1	Define and state basic Electrical & Electronics elements and circuits.	Cognitive	1	1	Engineering Knowledge
	2	Apply Power plant installations and distribution systems.	Cognitive	3	3	Design/Development of Solutions
	3	Explain the fundamentals of heat transfer, Heat Ventilation and Air Conditioning (HVAC).	Cognitive	2	1	Engineering Knowledge
Basic Electro Mechanical Engineering (Lab)	1	Perform and Demonstrate different electrical tests.	Psychomotor	2	4	Investigation
	2	Perform and Demonstrate different mechanical tests.	Psychomotor	3	4	Investigation
Islamic Studies	1	Apply fundamentals of quraan, ahadees, and their values in everyday life.	Cognitive	3	8	Ethics
	2	Discuss the importance of islamic architecture in modern day engineering considering social and religious aspects / values	cognative	2	6	The engineer and society
	3	Discuss the social and religious aspects of Islamic ethics	cognative	2	6	The engineer and society
Civil Engineering	1	Select materials based on their properties, behavior and intended use	Cognitive	1	1	Engineering Knowledge

Materials		*in design and construction to meet specification requirements.*				
	2	*Explain the production methods and basic properties of engineering materials for environmentally sustainable construction.*	*Cognitive*	*2*	*7*	*Environment & Sustainability*
	3	*Describe and characterize some of the variability and uncertainty associated with these materials and their use in building construction.*	*Cognitive*	*4*	*2*	*Problem Analysis*

Subjects	*CLOs #*	*CLO Statements*	*CLO Domain*	*Taxonomy Level*	*PLO #*	*PLO Description*
Semester # 2						
Introduction to computer Programming Lab)	*1*	*Define and explain the basic concepts of computer programming.*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
	2	*Perform basic programming tasks and functions.*	*Psychomotor*	*2*	*5*	*Modern Tool Usage*
Engineering Mechanics	*1*	*Describe the basic concepts of equilibrium and explain their application in civil engineering*	*Coginitive*	*1*	*1*	*Engineering Knowledge*
	2	*Apply fundamental concepts of statics & kinematics for analyzing forces in statically determinate structures.*	*Cognitive*	*3*	*2*	*Probelm Analysis*
Engineering Mechanics (Lab)	*1*	*Perform experiments related to Engineering Mechanics Lab*	*Psychomotor*	*3*	*9*	*Individual and Teamwork*
	2	*Estimate the physical parameters using experimental data*	*Cognitive*	*3*	*2*	*Problem Analysis*
	3	*Communicate the basic concepts of Engineering Mechanics*	*Affective*	*2*	*1*	*Engineering Knowledge*
Introduction to Architecture and Town planning	*1*	*Recognize ancient and modern form of living and the influence of culture on the architecture of different civilizations and vice versa*	*Cognitive*	*1*	*6*	*The Engineer and Society*
	2	*Define and Explain architectural design of buildings, building codes and byelaws and general treatment to plan of buildings*	*Cognitive*	*1*	*1*	*Engineering Knowledge*
	3	*Explain concepts related to planning and development of inhabitant areas and sustainability in town planning.*	*Cognitive*	*2*	*7*	*Environment & Sustainability*
Pakistan Studies	*1*	*Explain the key events and factors that led to the creation of pakistan by discussing various perspective to develop their own historical understanding*	*Cognitive*	*2*	*6*	*The Engineer and Society*
	2	*Understand political and constitutional phases and developments in pakistan political and economic system*	*Cognitive*	*4*	*6*	*The Engineer and Society*
	3	*Analyze on current persistant and controversial issues in Pakistan*	*Cognitive*	*4*	*6*	*The Engineer and Society*
Concrete Technology	*1*	*Explain the ingredients concrete, its fresh as well as hardened properties.*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
	2	*Apply concrete mix design according to ACI method*	*Cognitive*	*3*	*3*	*Design/Development of Solutions*

Concrete Technology (Lab)	*1*	*Perform experiments related to concrete technology.*	*Psychomotor*	*3*	*9*	*Individual and teamwork*
	2	*Describe & estimate the parameters using experimental data.*	*Cognitive*	*3*	*2*	*Problem analysis*
	3	*Response Affectively in performance of experiments related to properties of concrete.*	*Affective*	*3*	*10*	*Communication*
Engineering Geology	*1*	*Define the basic concept of geology*	*Cognitive*	*1*	*1*	*Engineering Knowledge*
	2	*Explain the formation of rocks and structural features of strata's And knowledge about landscape, earthquakes and tunneling*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
	3	*Apply acquired knowledge in civil engineering projects*	*Cognitive*	*3*	*1*	*Engineering Knowledge*

Subjects	*CLOs #*	*CLO Statements*	*CLO Domain*	*Taxonomy Level*	*PLO #*	*PLO Description*
		Semester # 3				
Engineering Surveying	*1*	*Explain the basic principles and techniques of surveying*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
	2	*Apply various techniques to calculate parameters required for plotting survey maps*	*Cognitive*	*3*	*2*	*Engineering Knowledge*
Engineering Surveying (Lab)	*1*	*Perform the experiments related to advance surveying by using modern survey equipments.*	*Psychomotor*	*4*	*5*	*Modern Tool Usage*
	2	*Prepare and Plot the lab and field works in a field book.*	*Cognitive*	*3*	*1*	*Engineering Knowledge*
	3	*Appreciates to work actively in group activities during the field work and shall be able to justify the conduct of experiments.*	*Affective*	*3*	*9*	*Individual and Team Work*
Civil Engineering Drawing and Graphics (Lab)	*1*	*Understands basic rules of drawing in AutoCAD, basic rules in architecture of buildings, plans, remembers different commands and shortcuts to various tools in AutoCAD*	*Cognitive*	*1*	*1*	*Engineering Knowledge*
	2	*Manipulate with guidance, tasks of CAD Software for drafting of simple to complex engineering drawings*	*Psychomotor*	*3*	*5*	*Modern Tool Usage*
	3	*Respond effectively to the tasks of CAD software in class activities and discuss ideas in class.*	*Affective*	*2*	*9*	*Individual and Team Work*
Mechanics of Solids-I	*1*	*Explain types of stresses and strains, Hook's Law, Moduli of elasticity, Lateral strain, Volumetric Strain, Poisson's Ratio, Temperature stresses and Compound bars.*	*Cognitive*	*2*	*1*	*Engiineering Knowledge*
	2	*Analyze the behavior of members subjected to different sets of loading and states of stresses*	*Cognitive*	*4*	*2*	*Problem Analysis*
	3	*Identify and Compare materials of appropriate strength for structural elements*	*Cognitive*	*4*	*4*	*Investigation*
Quantity Surveying and Estimation	*1*	*Apply concept and skills for quantity take-off for different civil engineering works.*	*Cognitive*	*3*	*1*	*Engineering Knowledge*
	2	*Illustrate rate analysis, productivity and pricing*	*Cognitive*	*3*	*2*	*Problem Analysis*
	3	*Discuss concepts related to legal and contractual aspects of cost of construction*	*Cognitive*	*2*	*11*	*project management*

		projects				
	4	*Reproduce estimation and costing using MS Excel spreadsheets or Quantity take-off software*	*Psychomotor*	*3*	*5*	*Modern Tool Usage*
Numerical Analysis	*1*	*Define & Explain the basic concept and working procedure of Non-Linear Equations, Finite Differences, Numerical Integration, Linear Simultaneous Equations and Complex Variable.*	*Cognitive*	*1*	*1*	*Engineering Knowledge*
	2	*Apply the acquired knowledge to solve problems of practical nature.*	*Cognitive*	*3*	*2*	*Probelm Analysis*
Construction Engineering	*1*	*Define and Explain the Project Goals and Objectives, Project categories, building permits, Codes and Construction Standards*	*Cognitive*	*2*	*11*	*Project Management*
	2	*Analyze the fundamentals of construction projects*	*Cognitive*	*4*	*2*	*Probelm Analysis*

Subjects	*CLOs #*	*CLO Statements*	*CLO Domain*	*Taxonomy Level*	*PLO #*	*PLO Description*
Semester # 4						
Mechanics of Solids-II	*1*	*Apply concepts of stress and strain transformation in structural members*	*Cognitive*	*3*	*1*	*Engineering Knowledge*
	2	*Examine and Compare different design options for practical engineering structures and select suitable materials and/or configurations for such structures.*	*Cognitive*	*4*	*3*	*Design*
	3	*Analyze structural members under various loading conditions*	*Cognitive*	*4*	*2*	*Problem Analysis*
Mechanics of Solids-II (Lab)	*1*	*Practice and Operate experiments related to Mechanics of Solids.*	*Psychomotor*	*3*	*9*	*Individual and Teamwork*
	2	*Apply and Estimate physical parameters of Mechanics of solids experiments using experimental data.*	*Cognitive*	*3*	*1*	*Engineering Knowledge*
	3	*Respond affectively in Mechanics of Solids experiments.*	*Affective*	*2*	*10*	*Communication*
Structural Analysis-I	*1*	*Define various types of determinate structures and loads, redundancy and stability of structures*	*Cognitive*	*1*	*1*	*Engineering Knowledge*
	2	*Analyze different determinate structural members (trusses, beams, frames, arches and suspension structures) by various methods and the effect of moving loads by Influence lines ,*	*Cognitive*	*4*	*2*	*Problem Analysis*
Advanced Engineering Surveying	*1*	*Explain and Apply methods of setting out curves, triangulations, Survey drafting and computations.*	*Cognitive*	*3*	*2*	*Problem Analysis*
	2	*Explain the Principles of Hydrographic and Construction Surveys as well as the operations and working of Electronic Distance Measurement Tools*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
Advanced Engineering Surveying (Lab)	*1*	*Perform the experiments related to advance surveying by using modern survey equipment.*	*Psychomotor*	*4*	*5*	*Modern Tool Usage*
	2	*Prepare and Plot the lab and field works in a field book.*	*Cognitive*	*3*	*1*	*Engineering Knowledge*

	3	Appreciates to work actively in group activities during the field work and shall be able to justify the conduct of experiments.	Affective	3	9	Individual and Teamwork
Fluid Mechanics	1	Explain the basic concept of Fluid mechanics, all fluid properties and basic parameters, mechanism of fluid kinematics ,fluid statics and Hydrodynamics and pressure measuring devices	Cognative	2	1	Engineering Knowledge
	2	Solve the problems pertaining to fundamental of fluid mechanics and apply concepts of mass, momentum and energy conservation to flows	Cognative	3	2	Probelm Analysis
Fluid Mechanics (Lab)	1	Practice the experiments related to fluid mechanics	Psychomotor	3	9	Individual and Teamwork
	2	Slove the physical parameters using experimental data	Cognitive	3	2	Problem Analysis
	3	Communicate and answer freely the concepts of fluid mechanics, all fluid properties and basic parameters	Affective	2	10	Communication
Differential Equations	1	Define & explain the basic concept of Matrices, Ordinary differential equations, Partial differential equations, Fourier series and to understand their applications in Civil engineering.	Cognative	1	1	Engineering Knowledge
	2	Solve problems of practical nature.	Cognative	3	2	Probelm Analysis

Subjects	CLOs #	CLO Statements	CLO Domain	Taxonomy Level	PLO #	PLO Description
Semester # 5						
Structural Analysis-II	1	Define and illustrate Force method, displacement method of analysis of structures, finite element analysis of structures and introduction to plastic analysis of structures	Cognitive	2	1	Engineering Knowledge
	2	Apply Excel software for analysis of structures by Moment Distribution and Slope deflection methods	Cognitive	3	5	Modern Tool Usage
	3	Analyze indeterminate structures with classical methods of structural analysis	Cognitive	4	2	Problem Analysis
Advanced Fluid Mechanics	1	Explain the advance principles of fluid mechanics including 3-dimensional analysis.	Cognitive	2	1	Engineering Knowledge
	2	Analyze the different Engineering problems related to civil engineering project and applicable for industrial and public health usage	Cognitive	4	2	Problem Analysis
Advanced Fluid Mechanics Lab	1	Practice the experiments related to principles of advanced fluid mechanics.	Psychomotor	3	9	Individual and teamwork
	2	Solve the physical parameters using experimental data.	Cognitive	3	2	Problem Analysis
	3	Communicate and answer freely the concepts of advanced fluid mechanics, all fluid properties and basic parameters.	Affective	2	10	Communication

Soil Mechanics	*1*	*Define and Discuss the soil formation, its index, engineering properties and behavior*	*Cognitive*	*2*	*1*	*Engineering Knowlegde*
	2	*Analyze the effects of loads, additives and water on behavior and properties of soil*	*Cognitive*	*4*	*2*	*Problem Analysis*
	3	*Prepare soil investigation program for classification of soil*	*Cognitive*	*3*	*4*	*Investigation*
Professional Ethics	*1*	*Define and explain the laws of ethics dealing with social life, organizational behavior and culture*	*Cognitive*	*2*	*6*	*Engineer and society*
	2	*Apply the knowledge of ethics in their personal and professional life*	*Cognitive*	*2*	*8*	*Ethics*
	3	*Conform to the key factors of interpersonal relations*	*Affective*	*3*	*12*	*Life long learning*
Transportation Planning & Engineering	*1*	*Define basic concepts of different transportation modes and their planning*	*Cognitive*	*1*	*1*	*Engineering Knowledge*
	2	*Analyze capacity and LOS using knowledge of traffic engineering*	*Cognitive*	*4*	*2*	*Problem Analysis*
	3	*Explain different components of Railway, Airport and Coastal Engineering*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
Probability and Statistics	*1*	*Explain the Basic Concepts of Probability and Statistics*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
	2	*Apply probability analysis and statistical analysis of data related to civil engineering research and projects*	*Cognitive*	*3*	*2*	*Problem Analysis*
	3	*Perform statistical analysis using SPSS Software*	*Psychomotor*	*5*	*5*	*Modern Tool Usage*

Subjects	*CLOs #*	*CLO Statements*	*CLO Domain*	*Taxonomy Level*	*PLO #*	*PLO Description*
Semester # 6						
Geotechnical & Foundation Engineering	*1*	*Explain the concepts related to Bearing capacity, settlement evaluation, slope stability*	*Cognitive*	*2*	*1*	*Engineering Knowlegde*
	2	*Analyze engineering problems related to soil and geotechnical engineering*	*Cognitive*	*4*	*2*	*Problem Analysis*
	3	*Design various foundations and retaining structures considering geotechnical Parameters*	*Cognitive*	*5*	*3*	*Design/Development of Solutions*
Geotechnical & Foundation Engineering Lab	*1*	*Perform basic and advance experiments related to the investigation of soil properties.*	*Psychomotor*	*3*	*4*	*Investigation*
	2	*Define and explain soil properties and soil investigation.*	*Cognitive*	*2*	*1*	*Engineering Knowlegde*
	3	*Communicate and answer freely the concepts related to geotechnical investigations.*	*Affective*	*2*	*10*	*Communication*
Disaster Management	*1*	*Explain the basic concepts of natural and human induced hazards and their socioeconomic aspects.*	*Cognitive*	*2*	*6*	*The Engineer and Society*
	2	*Explain the techniques for pre and post-disaster management.*	*Cognitive*	*2*	*7*	*Environment and Sustainability*
	3	*Develop emergency preparedness plan for different disasters*	*Affective*	*3*	*12*	*Life-long Learning*

Highway & Traffic Engineering	*1*	*Define and Explain different engineering properties of pavement materials and Highway Planning in Urban, Rural and Hilly Locations*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
	2	*Analyze and Design pavement structures (Geometrics and thickness) of Highways*	*Cognitive*	*5*	*3*	*Design/Development of Solutions*
	3	*Describe pavement evaluation process*	*Cognitive*	*1*	*1*	*Engineering Knowledge*
Highway & Traffic Engineering Lab	*1*	*Perform and Demonstrate Experiment Related to pavement materials*	*Psychomotor*	*3*	*4*	*Investigation*
	2	*Describe Physical parameters using experimental data*	*Cognitive*	*2*	*2*	*Problem analysis*
	3	*Respond Effectively to the knowledge gain*	*Affective*	*2*	*9*	*Individual and Teamwork*
Hydraulic Engineering	*1*	*Apply and Analyze principles of hydraulic engineering to open and closed channel flow*	*Cognitive*	*4*	*2*	*Problem Analysis*
	2	*Discuss sediment transport and reservoir sedimentation*	*Cognitive*	*2*	*1*	*Engineering Knowlegde*
	3	*Apply and Develop expression for dependent variables for the hydraulics phenomenon using hydraulic similitude and dimensional analysis*	*Cognitive*	*3*	*3*	*Design/Development of Solutions*
Reinforced Concrete Design-I	*1*	*Explain the basic knowledge on design of concrete structures*	*Cognitive*	*2*	*1*	*Engineering Knowlegde*
	2	*To Analyze and Design RC elements including slab, beams, short columns, isolated footing*	*Cognitive*	*3*	*3*	*Design/Development of Solutions*
Technical Report Writing and Presentation Skills	*1*	*Demonstrate skills in technical writing by writing memos / letters / reports, etc*	*Cognitive*	*3*	*10*	*Communication*
	2	*Apply research writing skills to write a piece of research Work*	*Cognitive*	*4*	*10`*	*Communication*
	3	*Demonstrate ethical standards in technical writing*	*Cognitive*	*3*	*10*	*Communication*

Subjects	*CLOs #*	*CLO Statements*	*CLO Domain*	*Taxonomy Level*	*PLO #*	*PLO Description*
		Semester # 7				
Steel Structures	*1*	*Explain the use of steel as a structural component*	*Cognitive*	*2*	*1*	*Engineering Knowledge*
	2	*Evaluate the design strength of simple steel structures such as connections, tension members, compression and flexural members, etc.*	*Cognitive*	*6*	*3*	*Design / Development of Solutions*
Water Supply Engineering	*1*	*Explain the different concepts of water supply and environmental Engineering such as water pollution, water quality parameters, sampling and testing etc*	*Cognitive*	*2*	*7*	*Environment and Sustainability*
	2	*Explain and Design water distribution networks and treatment systems*	*Cognitive*	*5*	*3*	*Design / Development of Solutions*
Reinforced Concrete Design-II	*1*	*Analyze and Design various reinforced elements such as flat slabs, flat plates, waffle slabs, slender columns, foundations, staircases, water tanks and reservoirs*	*Cognitive*	*C-5*	*3*	*Design / Development of Solutions*

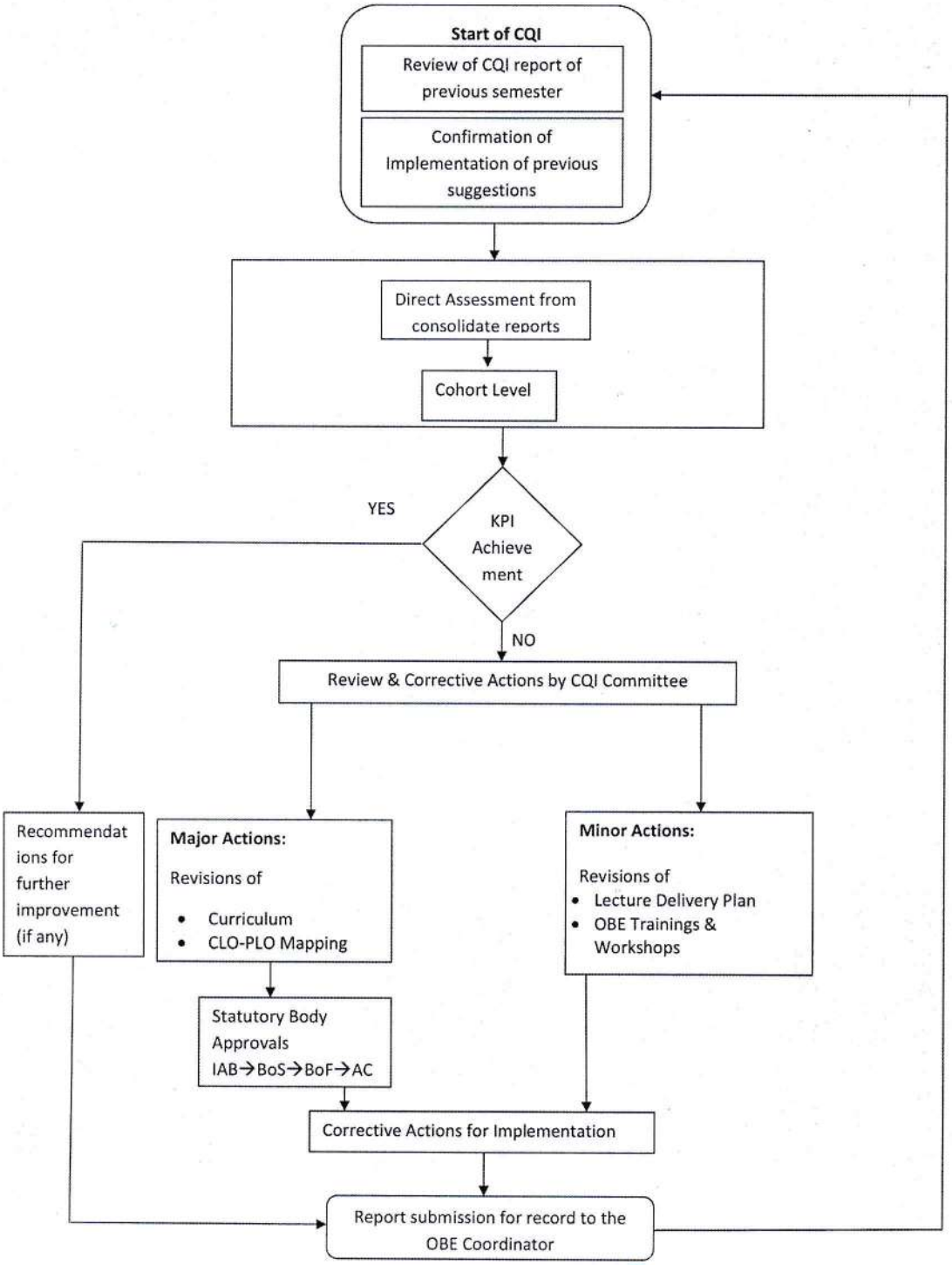
	2	Describe the concepts of pre stressing, retaining wall and earth quake resistant structure	Cognitive	C-1	1	Engineering Knowledge
Reinforced Concrete Design-II (Lab)	1	Perform experiments related to plain and reinforced concrete members.	Psychomotor	P-3	9	Individual and Teamwork
	2	Estimate the physical parameters using experimental data.	Cognitive	C-3	2	Problem Analysis
	3	Response affectively in performance of experiments related to plain and reinforced concrete members.	Affective	A-3	10	Communication
Engineering Hydrology and Water Management	1	Define & Explain the basic areas of hydrological engineering.	Cognitive	2	1	Engineering Knowledge
	2	Analyze the ability to measure different hydrological quantities/components such as precipitation, stream flows, run-offs, and ground water.	Cognitive	4	2	Problem analysis
GIS RS Application for Civil Engineer (Lab)	1	Perform and Demonstrate Basic and Advanced GIS Tasks	Psychomotor	3	5	Modern Tool Usage
	2	Apply and illustrate the applications of GIS in Civil Engineering	Cognitive	3	5	Modern Tool Usage
Final Year Project (Part-I)	1	Recognize local, regional and national issues related to civil engineering industry and incorporate them in the project.	Cognitive	1	6	The Engineer and Society
	2	Follow code of ethics in all phases of the design project.	Affective	1	8	Ethics
	3	Perform effectively as a group member in finding solutions to problems.	Affective	2	9	Individual and Teamwork
	4	Investigate and Review Literature related to a civil engineering problem to derive valid conclusions	Cognitive	5	4	Investigation
	5	Modern tool Usage Apply modern engineering and IT tools and resources, complex engineering activities, with an understanding of the limitations.	Psychomotor	3	5	Modern Tool Usage
	6	Display effective communications skills in presenting the findings of the project	Affective	5	10	Communication
	7	Manage the design project according to the required time, cost and quality constraints to meet the final objectives.	Psychomotor	6	11	Project Management
	8	Practice lifelong learning skills to satisfy the scope of the design project.	Affective	5	12	Life-long Learning
	9	Create and Develop Solutions to problems related to civil engineering industry	Cognitive	6	3	Design / Development of Solutions
	10	Follow the guidelines for sustainable development goals of UN	Affective	1	7	Environment and Sustainability

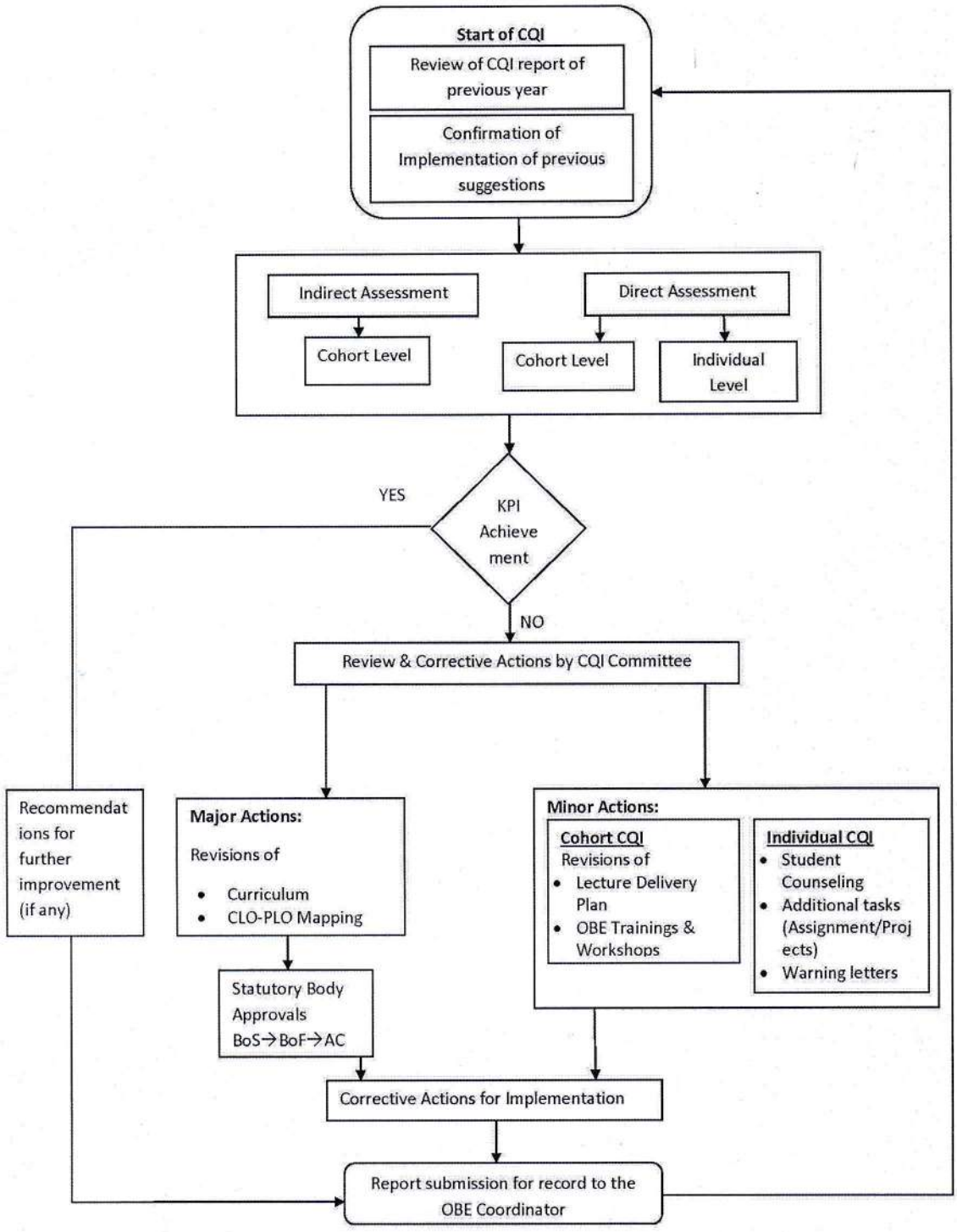
Subjects	CLOs #	CLO Statements	CLO Domain	Taxonomy Level	PLO #	PLO Description
Semester # 8						
Waste Water Engineering	1	Define and Explain the fundamental components of Wastewater Engineering, Environmental Impact Assessment and	Cognitive	2	7	Environment and Sustainability

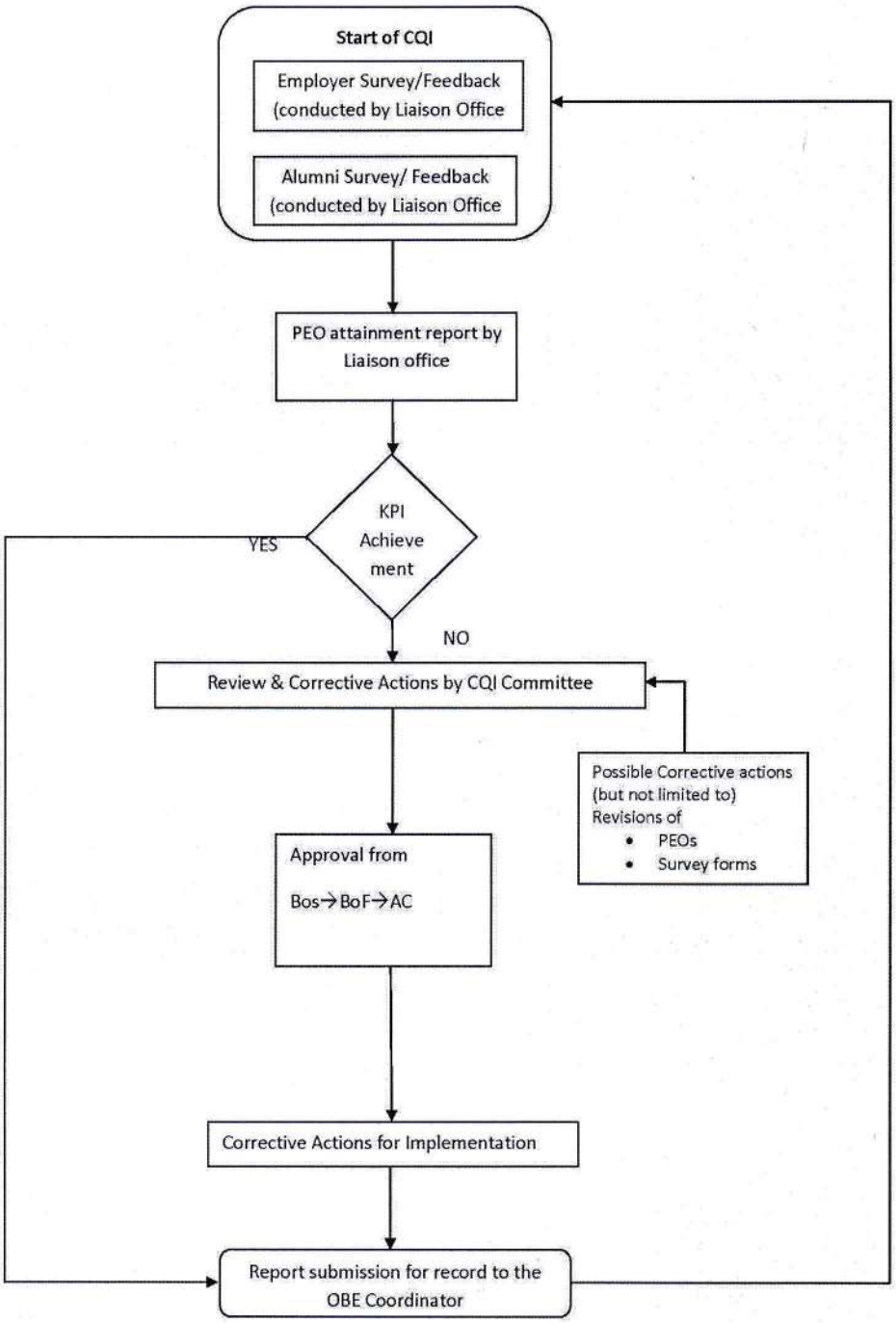
		Solid Waste Management				
	2	*Explain and Design Sewerage systems and Waste Water Treatment Plants*	*Cognitive*	*5*	*3*	*Design / Development of Solutions*
Waste Water Engineering (Lab)	*1*	*Conduct various experiments to investigate the quality of given water and wastewater sample.*	*Psychomotor*	*4*	*4*	*Investigation*
	2	*Initiate effectively and behave accordingly in groups during performance.*	*Affective*	*3*	*9*	*Individual and teamwork*
	3	*Analyze the parameters of water quality using experimental data and determine its applications to use.*	*Cognitive*	*4*	*2*	*Problem Analysis*
Hydraulic Structures	*1*	*Define basic theories of hydraulic structure*	*Cognitive*	*1*	*1*	*Engineering Knowledge*
	2	*Review various concepts necessary to comprehend the working principles of hydraulic structures*	*Cognitive*	*5*	*1*	*Engineering Knowledge*
	3	*Analyze and Design different hydraulic structures through problem solving*	*Cognitive*	*6*	*3*	*Design/Development of Solutions*
Introduction to Structural Dynamics and Earth Quake Engineering	*1*	*Define and Explain the basic concepts of structural dynamics*	*Cognitive*	*2*	*1*	*Engineering Knowledge:*
	2	*Formulate the equation of motion for SDOF and MDOF systems for free and force vibration*	*Cognitive*	*5*	*2*	*Problem Analysis*
	3	*Design simple RC structure under seismic loadings*	*Cognitive*	*2*	*3*	*Design / Development of Solutions:*
Project Planning and Management	*1*	*Define different terms related to project planning and management and project management knowledge areas and process groups.*	*Cognitive*	*1*	*11*	*Project management*
	2	*Explain the significance of Teamwork and Leadership in Project Management*	*Cognitive*	*2*	*9*	*Individual and team work*
	3	*Analyze the project requirement and project planning, implementation and monitoring/controlling steps and activities*	*Cognitive*	*4*	*11*	*Project Management*
Project Planning and Management (Lab)	*1*	*Perform and Demonstrate the different project management tasks and operations on a computer software*	*Psychomotor*	*4*	*5*	*Modern Tool Usage*
	2	*Apply and illustrate the significance and applications of project management in Civil Engineering*	*Cognitive*	*3*	*5*	*Modern Tool Usage*
Final Year Project (Part-II)	*1*	*Recognize local, regional and national issues related to civil engineering industry and incorporate them in the project.*	*Cognitive*	*1*	*6*	*The Engineer and Society*
	2	*Follow code of ethics in all phases of the design project.*	*Affective*	*1*	*8*	*Ethics*
	3	*Perform effectively as a group member in finding solutions to problems.*	*Affective*	*2*	*9*	*Individual and Teamwork*
	4	*Investigate and Review Literature related to a civil engineering problem to derive valid conclusions*	*Cognitive*	*5*	*4*	*Investigation*

	5	*Modern tool Usage Apply modern engineering and IT tools and resources, complex engineering activities, with an understanding of the limitations.*	*Psychomotor*	*3*	*5*	*Modern Tool Usage*
	6	*Display effective communications skills in presenting the findings of the project*	*Affective*	*5*	*10*	*Communication*
	7	*Manage the design project according to the required time, cost and quality constraints to meet the final objectives.*	*Psychomotor*	*6*	*11*	*Project Management*
	8	*Practice lifelong learning skills to satisfy the scope of the design project.*	*Affective*	*5*	*12*	*Life-long Learning*
	9	*Create and Develop Solutions to problems related to civil engineering industry*	*Cognitive*	*6*	*3*	*Design / Development of Solutions*
	10	*Follow the guidelines for sustainable development goals of UN*	*Affective*	*1*	*7*	*Environment and Sustainability*

Annexure-4


Start of CQI
Review of CQI report of previous semester
Confirmation of Implementation of previous suggestions
Direct Assessment from consolidate reports
Cohort Level
KPI Achieve ment
YES
NO
Review & Corrective Actions by CQI Committee
Recommendat ions for further improvement (if any)
Major Actions:
Revisions of
Curriculum
CLO-PLO Mapping
Minor Actions:
Revisions of
Lecture Delivery Plan
OBE Trainings & Workshops
Statutory Body Approvals
IAB→BoS→BoF→AC
Corrective Actions for Implementation
Report submission for record to the OBE Coordinator


Start of CQI
Review of CQI report of previous year
Confirmation of Implementation of previous suggestions
Indirect Assessment
Cohort Level
Direct Assessment
Cohort Level
Individual Level
KPI Achievement
YES
NO
Review & Corrective Actions by CQI Committee
Recommendations for further improvement (if any)
Major Actions:
Revisions of
Curriculum
CLO-PLO Mapping
Statutory Body Approvals BoS→BoF→AC
Minor Actions:
Cohort CQI
Revisions of
Lecture Delivery Plan
OBE Trainings & Workshops
Individual CQI
Student Counseling
Additional tasks (Assignment/Projects)
Warning letters
Corrective Actions for Implementation
Report submission for record to the OBE Coordinator


Start of CQI
Employer Survey/Feedback (conducted by Liaison Office
Alumni Survey/ Feedback (conducted by Liaison Office
PEO attainment report by Liaison office
KPI Achieve ment
YES
NO
Review & Corrective Actions by CQI Committee
Possible Corrective actions (but not limited to) Revisions of
PEOs
Survey forms
Approval from
Bos→BoF→AC
Corrective Actions for Implementation
Report submission for record to the OBE Coordinator

Annexure-5

S. No	CLO	PLO
1	***Recognize*** *local, regional and national issues related to civil engineering industry and incorporate them inthe project.*	*6*
2	***Follow*** *code of ethics in all phases of the designproject.*	*8*
3	***Perform*** *effectively as a group member in findingsolutions to problems.*	*9*
4	***Investigate and Review*** *Literature related to a civilengineering problem to derive valid conclusions*	*4*
5	***Modern tool Usage*** *Apply modern engineering andIT tools and resources, complex engineering activities, with an understanding of the limitations.*	*5*
6	***Display*** *effective communications skills in presenting the findings of the project*	*10*
7	***Manage*** *the design project according to the requiredtime, cost and quality constraints to meet the final objectives.*	*11*
8	***Practice*** *lifelong learning skills to satisfy the scope ofthe design project.*	*12*
9	***Create and Develop*** *Solutions to problems related tocivil engineering industry*	*3*
10	***Follow*** *the guidelines for sustainable developmentgoals of UN*	*7*

Criteria	Weightage	Assessment Method
SYNOPSIS APPROVAL	20 %	Rubric - FYP-BECE- 7-1A
1st Progress Presentation	35 %	Rubric - FYP-BECE- 7-2
Supervisor Assessment	30 %	Rubric - FYP-BECE- 7-3
Thesis Report at the end of Part 1	15 %	Rubric - FYP-BECE- 7-4A
2nd Progress Presentation	10 %	Rubric – FYP-BECE-8- 1
Supervisor Assessment	30 %	Rubric - FYP-BECE-8- 2A
FYP Thesis Report at the end of Part 2	35 %	Rubric – FYP-BECE-8- 3A
Final Defense Presentation	25 %	Rubric - FYP-BECE-8-4

Title of the Study

1 Introduction

(2-5 paragraphs)

2 Literature Review and Identification of Research Gap

(Length does not matter as far as it is clear and descriptive)

3 Objectives

4 Methodology

(Well-defined methodology for execution of the work, addition of descriptive figures and flowcharts will be helpful)

5 Project timeline

Table 1. Project timeline

Year	Activity	Performed By	Month											
			1	2	3	4	5	6	7	8	9	10	11	12
1	Task 1	Names												
	Task 2	Names												
	Task 3	Names												

6 Research study output

No.	Title	Journal	Expected date ofcompletion	Status
1	Descriptive title of the article	Name	Article completiondate	SubmittedRevised Etc.
2	Descriptive title of the article	Name	Article completion date	Submitted Revised Etc.

List of CEP's Attribute

S.No.	CEP Attributes	Remarks (How it is encountered in FYDP)
1		
2		
3		

List of CEA's Attribute

S.No.	CEA Attributes	Remarks (How it is encountered in FYDP)
1		
2		
3		

List of UN SDG's

S.No.	UN SDG	Remarks (How it is encountered in FYDP)
1		
2		
3		

7 References

Annexure-6

IQRA NATIONAL UNIVERSITY, PESHAWAR

DEPARTMENT OF CIVIL ENGINEERING

DEPARTMENTAL CLEARANCE CERTIFICATE

STUDENT NAME: _____

FATHER NAME: _____

STUDENT ID: _____

BATCH: _____

CONTACT NUMBER (FOR ALUMNI SURVEY): _____

EMAIL ID (FOR ALUMNI SURVEY): _____

S.No	Clearance From	Faculty	Remarks and Signature
1	Graduating Survey Form	Engr. Farasat Ali	
2	IT (Student Feed Back Up and Clearance of all PLOs)	Engr. Ashraf Ali	
3	Internship (Certificate and Feed Back)	Engr. Farasat Ali	
4	FYDP Supervisor		
5	FYDP Coordinator	Engr. Amjad Islam	
6	Lab Coordinator	Engr. Dr. Zahid Ullah	

NOTE: AFTER DEPARTMENTAL CLEARANCE THE STUDENT MAY PROCEED FOR FURTHER CLEARANCE AND APPLY FOR TRANSCRIPT/PROVISIONAL/DEGREE.

_____

PROGRAM COORDINATOR, CED

Annexure-7

INTERNSHIP POLICY

Applicable for
(Civil Engineering Department, Iqra National University Peshawar)

Table of Contents:

INTRODUCTION

Industry Internship is an integral part of the academic curriculum of Civil Engineering Department. Its satisfactory completion is a mandatory requirement for the award of BSc Civil Engineering degree by the University. The general structure of the internship(s) requires the students to undertake an immersive assignment within the assigned organizations for a limited period. The internship offers the students an opportunity to gain hands-on industrial or organizational exposure; to integrate the knowledge and skills acquired through the coursework; interact with professionals and other interns; and to improve their technical, presentation, writing, and communication skills. Internship often acts as a gateway for final placement for many students.

OBJECTIVES

The Internship aims to achieve the following for the students:

1. Learning as students apply their technical, analytical and team skills in the work place
2. Networking opportunities with people from industry/organizations
3. Calibration of post-degree career plans based on real-life work exposure
4. Pre-placement offers where feasible/appropriate.

DURATION

Internship is mandatory for all students to be eligible for BSc Civil Engineering Degree. Duration of internship may vary depending upon the opportunities available but normally should be in the range of 6 to 8 weeks. Typically, summer internships start around July every year. In case the duration of an internship needs to be extended, it would be necessary for the student to obtain a prior written approval from the University.

ELIGIBILITY

- The student applicant must be validly enrolled in BSc Civil Engineering Program at the University.
- The University would facilitate internship placement of its students undergoing UG/PG Program provided that the student has successfully completed their previous semester examinations and their conduct at the University has been satisfactory throughout the program.

- Students with a CGPA equivalent to 2 (out of 4) or higher, who have no backlogs, and who have not defaulted in paying the requisite fees to the University will be considered for internship placements assistance. Students are required to maintain a good record of attendance in their courses, to be able to participate in internship placement (Guest Lectures/ Seminars/ Conferences/ Industry Visits etc).

GUIDELINES

- The industry liaison office of Civil Engineering Department at INU will be responsible for initializing and operationalizing the Internship Placement Process.
- The University will assist in organizing the internship opportunities for the students. The students will also be encouraged to search for internships aligned to their specific career interests. Any such internship opportunities directly obtained by the student need to be approved by the University in writing before the student embarks upon the internship.
- In line with the University's intent to nurture the spirit of entrepreneurship, the University will support students working on their own ventures in lieu of industry internships if these are formally approved by the Faculty and Dean and are conducted under respective faculty mentors.
- All students who are eligible and are required to undergo internships must fill an Internship Request form to be signed by Chairman Civil Engineering Department requesting the concerned organization for the student placement.
- Students must complete the minimum duration of internship as specified in the curriculum.
- The students must complete the requisite paperwork, including project reports, presentations in the prescribed formats (if any), and obtain the completion certificates from the sponsoring organizations adhering to minimum specified duration of internship.

EXPECTATIONS FROM STUDENT INTERNS

The students act as unofficial spokespersons and help in building the image of the University. The internships are unique opportunities for the students to receive pre-placement offers from reputed organizations of their chosen fields. They also represent occasions for the students to showcase the quality and the caliber of the University. Therefore, the students must take their internships with due seriousness and execute them diligently and demonstrate maturity and responsibility.

- Students should aim at working with such organizations, institutions or start-ups who provide challenging learning opportunities, and avoid choosing the organizations solely based on hometown convenience or stipend.
- The University expects that all students will adhere to the proper standards of intellectual honesty and professional propriety in their conduct. Students are advised not to do anything directly or indirectly which may create a poor impression about the University. Any student found disregarding any of the norms would be liable for disciplinary action.
- The students should abide by the dress code and other professional norms of their internship organization. Punctuality is a quality that is appreciated by professionals across all organizations.
- Students must abide by the applicable policies and norms of the sponsoring organization during the period of internship.
- The sponsoring organization has the right to terminate students from the internship at any time due to inappropriate behavior and/or non-cooperation with the internship process and/or continued non-performance in assignment.
- The University cannot be held responsible for any delay in commencement of internship as these are left to the internal regulations and guidelines of the sponsoring organization.
- Student who does not accept an offer or fail to join the assigned organization will not be eligible for placement assistance from the University.

INTERNSHIP PROCESS FLOW

The liaison office of CED, INU maintains close contact with various organizations to keep record of internships/jobs opportunities. Concomitantly, liaison office performs career counseling and internal screening of students under the guidance of chairman civil engineering department. After the interviews a tentative list based on student aptitude and preference is made. The employers are provided with tentative list of the interns against respective vacancies. Upon confirmation by employer, students are deputed to different organizations for internships. Apart from nomination through department, student also have the right of doing internship with the organization of his choice. However, the application form internship shall be initiated through liaison office and approved through chairman CED.

Upon completion of internship, assessment of both students and employer is done through feedback form prepared from the employer and students, respectively. Moreover, an oral examination of student regarding internship is also performed to assess the level of knowledge of the student regarding the project. The student feedback regarding employer helps department to keep record of good and bad organization in terms of positive contribution in professional development of our students. At completion of internship program, the chairman civil engineering department performs assessment in consultation with OBE committee at individual and coherent level based on the feedback forms and internship report. If required, continual quality improvement (CQI) process is invoked and internship program is reevaluated. Coordinator Industrial Liaison (department) will keep record of the results.

Prepared By:

Approved By:

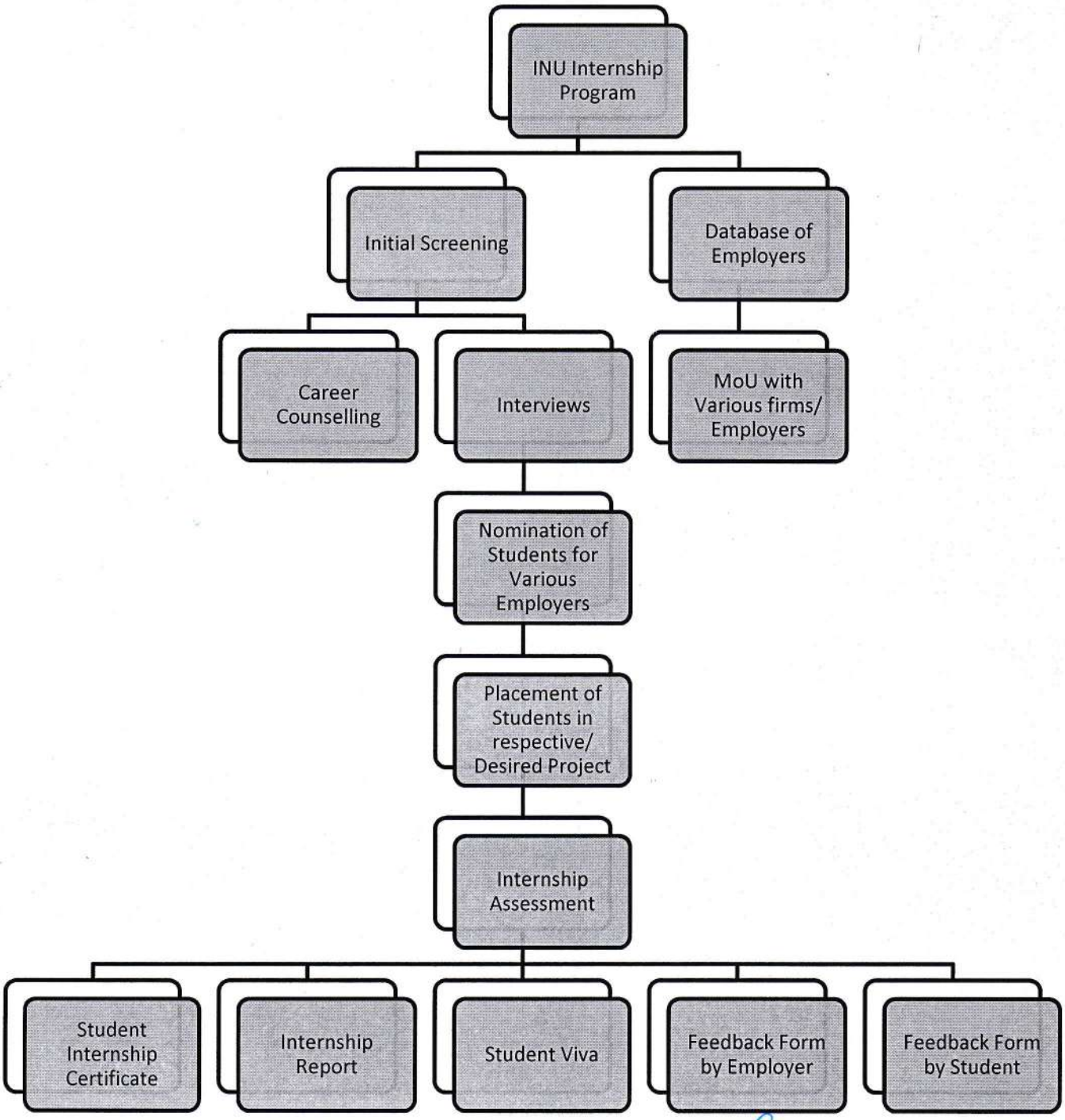


Figure: Internship Program

IQRA NATIONAL UNIVERSITY, PESHAWAR

DEPARTMENT OF CIVIL ENGINEERING

From

The Chairman,
Civil Engineering Department,
Iqra National University, Peshawar

To

_____

_____

_____

Subject: Internship of Civil Engineering Students

Practical training of the Engineering students is a pre-requisite for the award of B.Sc. Engineering Degree under OBE System.

I shall be obliged if you please cooperate with the Internship policy of Iqra National University Peshawar and assist us by taking the following student as apprentice for practical training in your works/firm/organization during summer vacations/Semester. The student will abide by the organization rules and regulations. After the completion of internship, kindly fill the Evaluation form (copy attached) and issue him a certificate to that effect.

Particulars of the student:

Name_____

Registration No._____

Batch: _____

Cell #_____

Chairman
Civil Engineering Department
Iqra National University Peshawar

Student Internship Evaluation Form

The Purpose of the evaluation form is to solicit your opinion about the performance of students during their course of Internship at your organization. We appreciate your honest and objective response.

Student Name & Registration Number: _____

Organization/Company of Internship: _____

Duration of Internship in weeks _____

Please evaluate the student's performance and conduct during internship training by encircling the appropriate number on the scale of 1 to 5.

#	Feedback	Poor	Average	Satisfactory	Good	Outstanding
		Scale (1 to 5)				
		1	2	3	4	5
1	Professional Engineering knowledge **(PLO-1)**					
2	Problem analysis skills during execution of project **(PLO2)**					
3	Investigation of a technical problem **(PLO-4)**					
4	Design and development solutions to technical problems **(PLO-3)**					
5	Ethical and professional behavior during internship **(PLO-8)**					
6	Ability to Communicate through oral and written mediums **(PLO-10)**					
7	Project management skills during project **(PLO-11)**					

*Formula: Overall score of the question = [(no. of 5s*5) + (no. of 4s*4) + (No. of 3s*3) + (no. of 2s*2) + (no. of 1s*)]/ Total number of responses for the feedback.*

Overall score: _____

Project Assigned: _____

Remarks: _____

Designation: _____ **Signature** _____