Academic Audit Report

For

Academic Year 2021-2022

Background:

The academic audit committee of GCECT has been constituted in October, 2012 to consider and review the institute's mechanism for monitoring and enhancing quality and standard necessary for achieving their stated aims and objectives. Since its formation, the committee has administered academic audit for each academic year.

Process of audit

Process of audit requires a self-review in which the institute evaluates its progress towards achieving its objectives and identifies areas for improvement. The committee holds meeting at the beginning and at the end of each academic year to discuss details of intended plans and strategies towards achieving its mission and vision and assess the measure practiced during the academic session.

The audit panel comprises of head of departments, selected members of faculty and external members.

The panel visits the department to check and verify the academic practices laid down by the committee for evaluation and drafts an audit report.

The report commends good practices and make recommendations intended to assist the institute for continuous improvement of quality. The audit report is put up to the IQAC for monitoring and follow up activities.

Areas of academic audits:

1. Infrastructural development
2. Teaching –learning
3. Curriculum reforms
4. Evaluation process
5. Students' performance
6. Research activities

1) Infrastructural Development

- Up-gradation and procurement of new furniture in the library was done.

- Annual subscription for KOHA for library management software and K.hub (e-resource).

- Refilling of portable fire extinguisher was done.

- Text and reference books were purchased in the library.

- Total amount of Rs. 3,16,361/- was spent for infrastructural up-gradation of library.

- Renovation work of college auditorium, ladies' common room was done.

- Repairing of projectors and computers of class rooms were done.

- The metal road leading to the main building, surrounding the whole campus from the entrance was renovated. Widening of existing road along the compound was completed.

- The site for construction of girls' hostel has been earmarked and surveyed. The building plan for the hostel has already been approved. The process of estimation is going on for sanctioning of fund from appropriate authority for next financial year 2023-24.

- This institute had spent total amount of Rs. 18,48,361/- for infrastructural up-gradation during the financial year 2021-2022.

- Commendations: The panel appreciated the infrastructural development in the Institute in spite of Covid-19 pandemic situation.

- Recommendations:

- The committee again recommended inclusion of more smart classrooms to cater ICT enabled teaching-learning process.

- They also recommended expediting the construction of girls' hostel in the institute to accommodate girls' students coming from different parts of the state and augmentation of seats in the boys' hostel.

2) Teaching – Learning:

- All teaching –learning processes are being conducted through ICT and are outcome based.

- Based on the problem faced during conduct of on-line classes after the onset of pandemic, the scheduling and academic management of classrooms in Google platform were organised in a structured manner following timetable prepared by the individual department.

- The Google classroom embedded with Google Meet under G Suite is being used to carry out lectures and organise various classroom activities like conducting quiz, taking assignments and passing on study and reference materials.

- Industrial training was conducted in both on-line and off-line mode as per policy and convenience of the industries in the pandemic situation.

- The Institute encouraged and facilitated the scope of online internship and FDP opportunities for both students and teachers during Covid-19 pandemic period. Following withdrawal of covid restrictions, normal off-line classes were resumed.

- Webinars were organised on relevant topics inviting experts from industry and academia to upgrade students with cutting edge technology.

- Several lectures by eminent persons from industry and academia have been organised in virtual mode.

- A YouTube channel in the name of the College has been subscribed which is functioning as a repository for webinars, virtual workshops, conferences as online learning resources during this pandemic for use of all stake holders.

- In line with AICTE model curriculum 2018, the Institute has organised Induction Programme for the new first year undergraduate students.

- The academic schedule for final year students has been made flexible in order to facilitate completion of a project in Industry.

- Remedial classes in on-line/off-line mode were arranged for slow learners.

- Students were mentored at micro level by tagging each faculty to a small group of students.

- This institute gives more emphasis on continuous evaluation of students both in theory and sessional paper through seminar, demonstration, assignments

- Emphasis on continuous evaluation increased by introducing variety of assessment tools like assignment, test based on assignment, surprise test, quiz, presentations etc.

- In addition continuous evaluation weightage was increased to 50% from 25% of total marks of particular course.

- Based on the data available (academic year 2021-22) from percentage attainment of course outcomes, an analysis has been done to identify the area where remedial measures are to be introduced for improving the performance of the student.

- The Institute is functioning as a local chapter of NPTEL.

Commendations:

- The panel praised the Institute's initiative for holding Induction programme to orient the young minds of fresher's with the engineering system and acclimatise them with the new outcome-based education system as per AICTE guidelines.

- The panel appreciated the effort of the faculty members in conducting laboratories in virtual mode by using internal and external resources.

- The panel praised the Institute's initiative for conducting online classes and organising seminars in virtual mode.

- The panel also appreciated the Institute's effort of creating repository of recorded video class lectures to be accessed by the students in the event of his/her not being able to attend the online class due to network issues and for future references too.

- The panel noted with satisfaction the way the academic schedule of CT was made flexible in order to provide final year students the scope for completion of project in Industries.

Recommendations:

- The committee recommended inclusion of more industry oriented elective paper in UG programme after receiving suitable feedback of Industries from time to time.

- They also recommended a provision of credit transfer for final year UG student while they are engaged in internship in different industry in our country and abroad.

- This year they recommended to encourage all students of CT, IT and CSE department for doing project work in the industries.

3) **Curriculum reforms**

- The curriculum of 7th and 8th semester of CSE/IT has been modified to facilitate students to do their project work in the industry. The complete modalities of internship has been prepared and approved.

- B.Tech CSE 8th sem course structure was designed with no theory/practical papers which was drafted In the departmental meeting dated 17.12.2021 was approved in the subsequent departmental BOS meeting.

- Elective subjects based on the need of the industry has been incorporated in the final year CSE/IT programme.

- Academic council in its meeting dated 11th Nov and 6th Dec, 2022 approved guidelines for teacher for preparation of score sheet of a candidate in terms of breakup of marks in order to cover all aspects of performance evenly for a sessional paper with a view to bring uniformity to the evaluation process

Commendations:

- The committee appreciated the Institution's prioritising continuous evaluation system introducing 50 percent weightage to it.

- The panel praised the introduction of flexible elective paper as per the need of the industry from time to time.

Recommendations:

- The panel recommended inclusion of more on-line courses and encourage students to upgrade themselves with cutting edge technology where necessary experts are not available in the Institute. Alumni of the institute may be requested to share their skill and knowledge with the students in on line / off line mode.

- The panel recommended introduction of Master degree in CS&E with specialisation in emerging area.

4) Evaluation Process

- As a part of continuous internal assessment two (2) midterm examinations are held during each semester.

- To bring transparency in evaluation system, students are allowed to view their evaluated answer script of semester end and midterm examinations before publication of final result.

- The question papers are set adhering to the course outcomes (COs) of the particular course for onward mapping of direct attainment of course outcome and programme outcomes (POs).

- Introduction of tools to calculate percentage attainment of course outcomes and map questions against course outcomes in all level of examinations from even semester of 2021-2022.

Commendations:

- The panel appreciated the Institute's smooth execution of switch over from on-line mode to off-line mode without creating any inconvenience to the students.

Recommendations:

- The panel recommended to explore the advantages of on-line teaching and evaluation system, given its inherent flexibility, in normal times when the face-to-face classes and pen and paper examination resume, as an additional component.

- The panel also recommended to explore the possibility of evaluation of answer script in on-line mode in post –pandemic situation.

5) Students' performance

Student performance has been analyzed for all the UG programs offered by the college across all semesters through the following steps:

- Collection of data: The cumulative grade point average (CGPA) of each Semester end examination of all branches (CT,IT,CSE) have been collected from the office of the controller of examinations.

- Analysis of data: The arithmetic mean of CGPA of all students of a program for a particular semester is calculated and plotted as a bar/pie diagram (each bar/ pie representing mean CGPA of respective semester). All representative plots are furnished in Annexure 1 and Annexure 2.

- Annexure -1 shows the mean data of CGPA 1 to CGPA 8 for UG (2018- 2022) batch.

- Annexure 2 shows distribution of CGPA 8 for UG (2018-2022) batch, CGPA 6 for UG (2019-2023), CGPA 4 for UG (2020-2024) batch and CGPA 2 for UG 2021-2025).

- Reporting of students' performance: It has been revealed from the analysis of data and the plots that there has been a steady improvement in performance across all the program for the period 2018 to till date.

- It appears that the cause of gradual improvement in grades of students in higher semesters can be attributed to their gradual better synchronization with the objective of the program.

- **Commendation:** It has been observed that there is gradual improvement in students' performance with their progress into subsequent higher semesters of study.

- **Recommendation:** The panel recommended more attention on the orientation of the new entrants in order to improve their performance from the very beginning.

6) Research

- A good number of projects were sanctioned to faculty of each department. Main sponsoring authorities are Department of Sc and Technology (DST, Delhi)); Department of Sc and Tech (DST, WB).

- Research supervision: Eight research fellows are working in this Institute under different Govt. Sponsored projects. Six faculty members are guiding these fellows.

- Three faculty members were awarded PhD in 2021-22 academic sessions.

Commendation:

- The committee appreciated the research activities undertaken at the Institute level and the output there from in respect of publications, awards, presentation in conferences.

- They also praised the Institute's intention to enhance the research activities among the faculty and students.

Recommendation:

- The panel encouraged faculties to complete their Doctoral degrees and encouraged students to involve in research activities.

- M.Tech projects might be oriented in such a fashion that it might either lead to publication in Scopus indexed journal or producing new technique for application in industry.

- The panel also recommended compulsory exposure of faculties in industrial practices as per notification of AICTE and thereby strengthening the institute-industry interface.
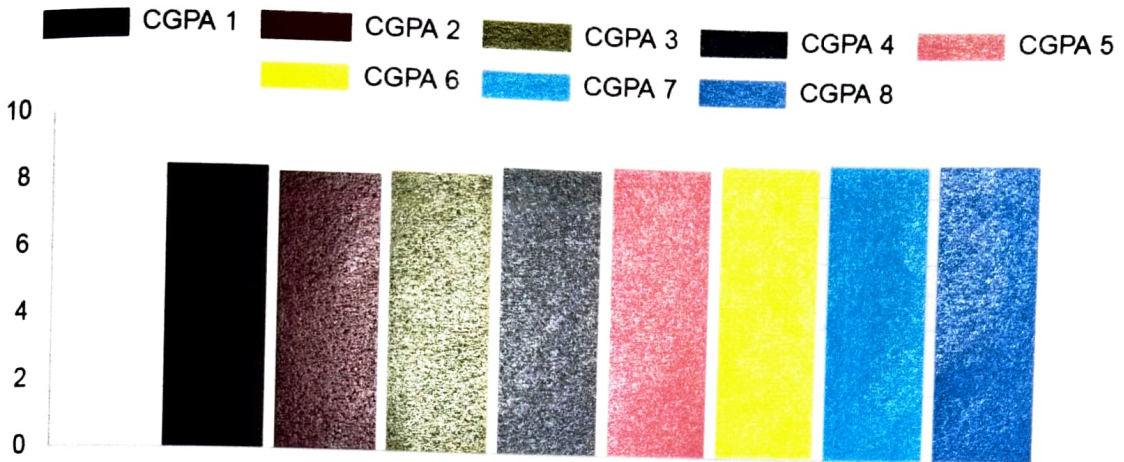
Acknowledgements:

The audit panel thanks all those who contributed to the Institute's self-assessment process and compilation of the self-assessment report. The panel is most grateful for the openness and frankness of who spared their time to appear before the panel and for their constructive comments and observations.
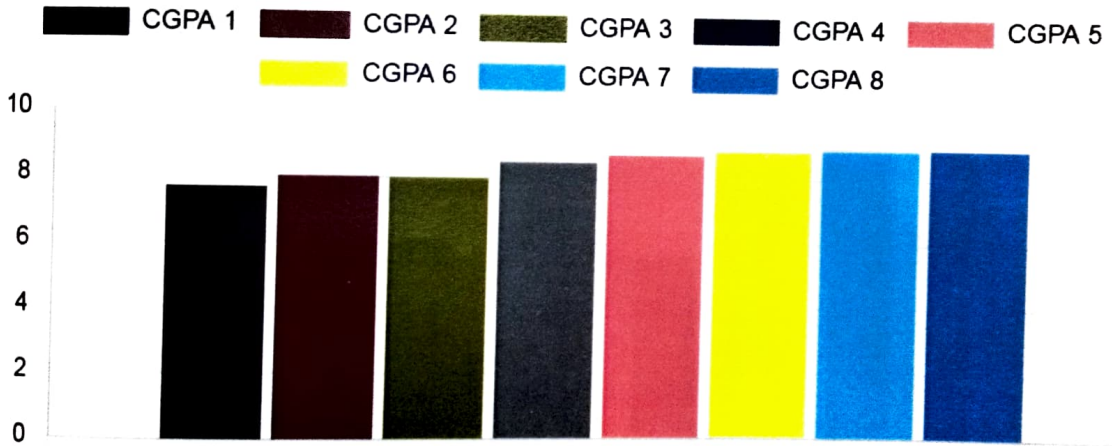
Audit Panel:

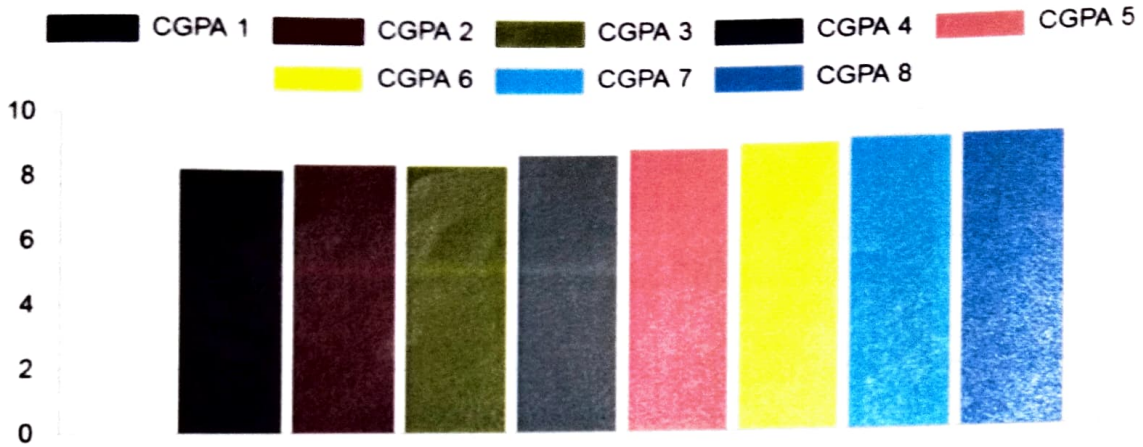|	
Dr. (Mrs) Urmila Kar (External Member)	
Dr.Sankar Ghatak (External Member)	
Head of the Department – Ceramic Technology	*Nitaparno Sen*
Head of the Department - Information Technology	*M. Maitra.*
Head of the Department – Computer Sc and Engg	*K. Saha.*
Head of the department of Basic Sc, Engg and Humanities	
Prof. Ranjan Roy	
Controller of Examinations	*Partha Haldar*

Annexure-1

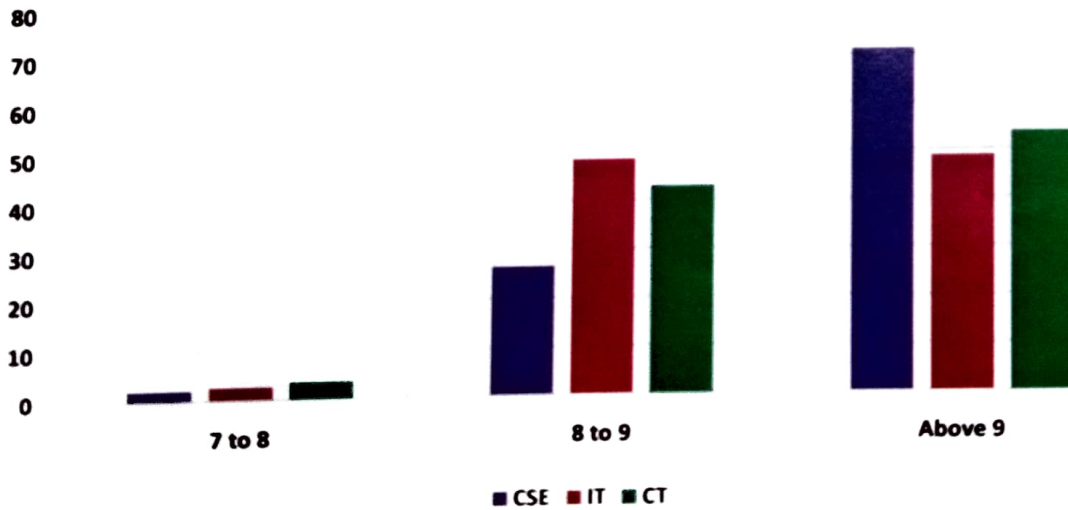## Mean Data of CT 2018-2022

Mean Data of IT 2018-2022
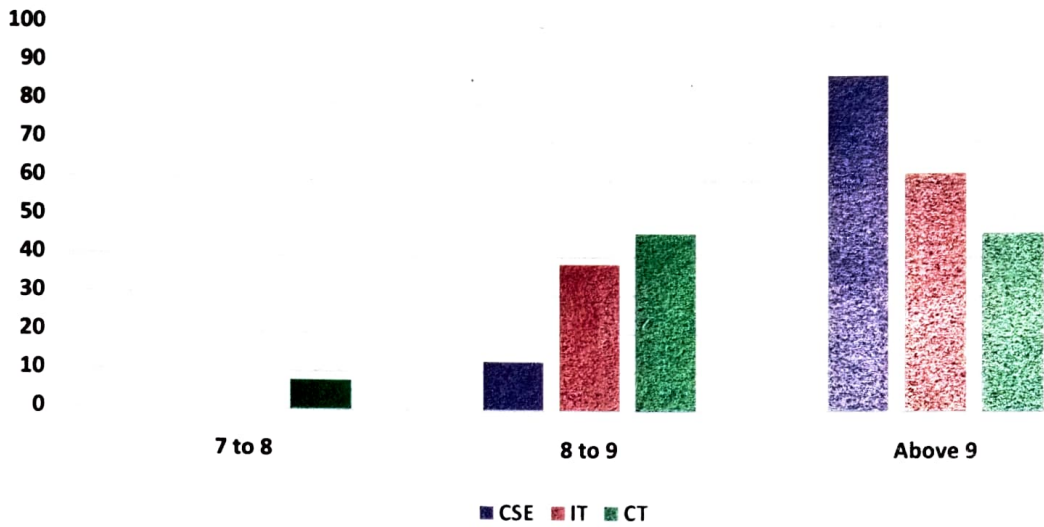
Mean Data of CSE 2018-2022

Legend: CGPA 1, CGPA 2, CGPA 3, CGPA 4, CGPA 5, CGPA 6, CGPA 7, CGPA 8

Distribution of CGPA 8 for B.Tech 2018-2022 batch

Categories: 7 to 8, 8 to 9, Above 9

Legend: CSE, IT, CT

Distribution of CGPA 6 for B.Tech 2019-2023 batch

Legend: CSE, IT, CT

X-axis categories: 7 to 8, 8 to 9, Above 9
Y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

Distribution of CGPA 4 for B.Tech 2020-2024 batch

Legend: CSE, IT, CT

X-axis categories: Below 7, 7 to 8, 8 to 9, Above 9
Y-axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90
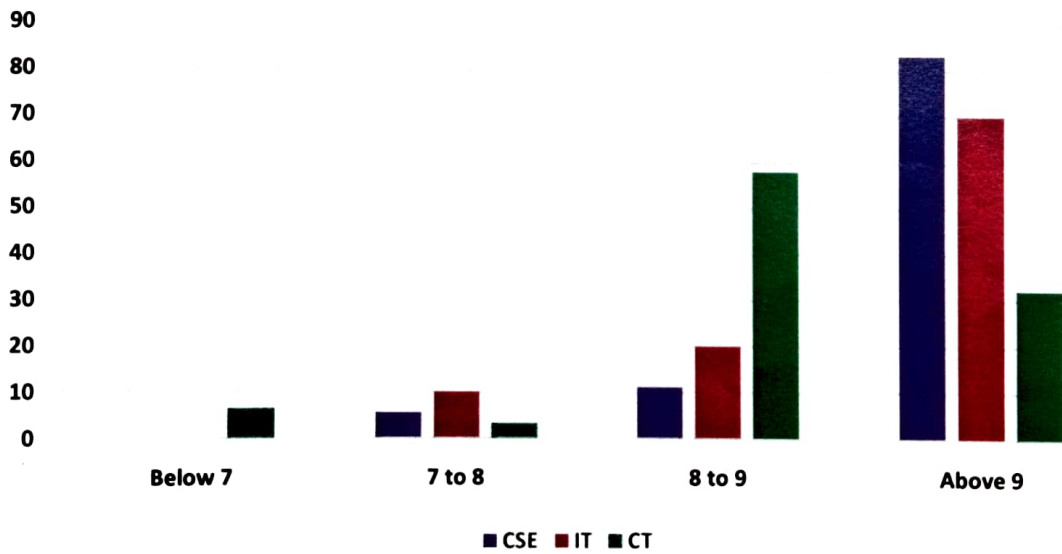
Distribution of CGPA 2 for B.Tech 2021-2025 batch

Legend: CSE, IT, CT

Categories: Below 7, 7 to 8, 8 to 9, Above 9

Y-axis: 0, 10, 20, 30, 40, 50, 60, 70