Annexure – 'D'

Academic Audit Report

for

Academic Year 2020-2021

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

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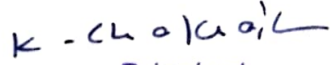& Ceramic Technology
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1) Infrastructural Development

1. Upgradation and procurement of new furniture in the library was done.

2. Thorough renovation of gymnasium including the equipment therein was done.

3. Thorough renovation of the skill development lab adjacent to the gymnasium was done.

4. The entire block of rooms housing the skill development lab, gymnasium etc. was thoroughly renovated

5. Major repair of elevator was also done.

6. The metal road leading to the main building from the entrance was also partly renovated.

7. Installation of Certralled AC in the mini conference room

8. Installation of equipment in sol-gel lab in the department of Ceramic Technology.

9. This institute had spent Rs. 28,87,522/- for infrastructural upgradation during the financial year 2020-2021

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

Recommendations:

1. The committee again recommended inclusion of more smart classrooms to cater ICT enabled teaching-learning process.
2. They also recommended creation of girls' hostel to accommodate girls' students coming from different parts of the state and augmentation of seats in the boys" hostel.

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2) Teaching – Learning:

1. All teaching –learning processes are being conducted through ICT and are outcome based.
2. 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.
3. 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.
4. Practical classes in virtual mode were conducted by teachers as per schedule using software available in our institute and resources available from institutes of repute.
5. Industrial training was conducted in both on-line and off-line mode as per policy and convenience of the industries in the pandemic situation.
6. The Institute encouraged and facilitated the scope of online internship and FDP opportunities for both students and teachers during Covid-19 pandemic period.
7. Webinar were organised on the different relevant topics inviting experts from industry and academia to upgrade students with cutting edge technology.
8. Several lectures by eminent persons from industry and academia have been organised in virtual mode.
9. 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.
10. In line with AICTE model curriculum 2018, the Institute has organised Induction Programme for the new first year undergraduate students.
11. The academic schedule for final year students has been made flexible in order to facilitate completion of a project in Industry.
12. Remedial classes in on-line mode were arranged for slow learners.
13. Students were mentored at micro level by tagging each faculty to a small group of students.
14. This institute gives more emphasis on continuous evaluation of students both in theory and sessional paper through seminar, demonstration, assignments.
15. The Institute is functioning as a local chapter of NPTEL.

Commendations:

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

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

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

4. 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.

5. 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:

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

2. 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.

3. This year also they recommended to extend the provision of academic flexibility of doing project practised in CT department to departments of CSE and IT.

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3) Curriculum reforms

1. As per AICTE Model 2018, the Institute has offered two different programmes in UG level viz. B.Tech and B.Tech (H)

2. The Institute also gives more emphasis on MOOCS and made provision in their curriculum for conferment of B. Tech with Honours degree. A student has to earn 20 additional credits through MOOCS over and above all the existing courses taught in the college for conferment of Honours degree.

3. Course curriculum has thoroughly been restructured from 2018-2019 academic session and restricting the total credit to 160 conforming to AICTE model 2018.

4. All laboratory classes have been made sessional in the new curriculum and they are to be evaluated through continuous assessment comprising of experiment conduction, note book writing, viva, attendance, skills etc.

5. There is a provision of assessment of students' performance in lab paper through a panel of external experts of respective field in the name of comprehensive Lab assessment in each semester.

6. The new curriculum gives more importance on flexible industry friendly elective papers based on the feedback of employer, alumni and other stakeholders.

7. There is a provision for mandatory course on Constitution of India, Law for engineers, social justice, environmental awareness, right to information in the course curriculum of the Institute.

8. All courses are framed mentioning the objectives and course outcomes.

9. The criteria of promotion have been changed to allow a student to carry studies according to his/her capability without being detained at a particular level in a course with a maximum time limit prescribed in the curriculum, by removing the provision of detention in the academic regulation at a particular level due to failure in more courses than specified.

Commendations:

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

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

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Recommendations:

1. 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.

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

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4) Evaluation Process

1. 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.

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

3. 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)

4. In view of the pandemic situation due to COVID-19, a new method of on-line evaluation of students in the form of on-line quiz, on-line MID term and semester end examinations (SEE) had been successfully implemented with the concurrence of Academic Council.

5. Apart from on-line MCQ examinations, an on-line viva-voce examination was also conducted successfully as a component of whole evaluation system during this pandemic.

Commendations:

1. The panel appreciated the Institute's approach of viewing evaluated answer script in Google form by the students before the publication of final results as a unique measure of transparency in evaluation system.

2. Successful completion of on-line examination during the pandemic of COVID-19 in the form of on-line MCQ examination through Google Form and on-line viva-voce examination in Google Meet platform and subsequent publication of even semester examinations was highly appreciated. It might not be out of place to mention that the premier institutes of India also recommended the same methods of evaluation of students during this pandemic.

Recommendations:

1. 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.

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

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5) Students' performance

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

1. 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.

2. 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 I, Annexure 2 and Annexure 3.

Annexure -1 shows the distribution of CGPA 1 to CGPA 6 for UG (2018- 2022) batch.

Annexure 2 shows distribution of CGPA 6 for UG (2018-2022) batch.

Annexure 3 shows distribution of CGPA 2 for UG (2020-2024) batch, CGPA 4 for UG (2019-2023) and CGPA 6 for UG (2018-2022) batch.

3. 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 with the objective of their respective programs in order to improve their performance from the very beginning.

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6) **Research**

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

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

3. One faculty member was awarded PhD in 2020-21 academic session.

Commendation:

1. The committee appreciated the research activities undertaken at the Institute level and the output therefrom in respect of publications, awards, presentation in on-line conferences.

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

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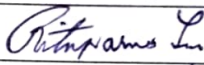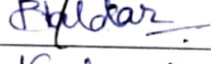
1. The panel encouraged faculties to complete their Doctoral degrees and encouraged students to involve in research activities.

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

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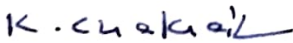
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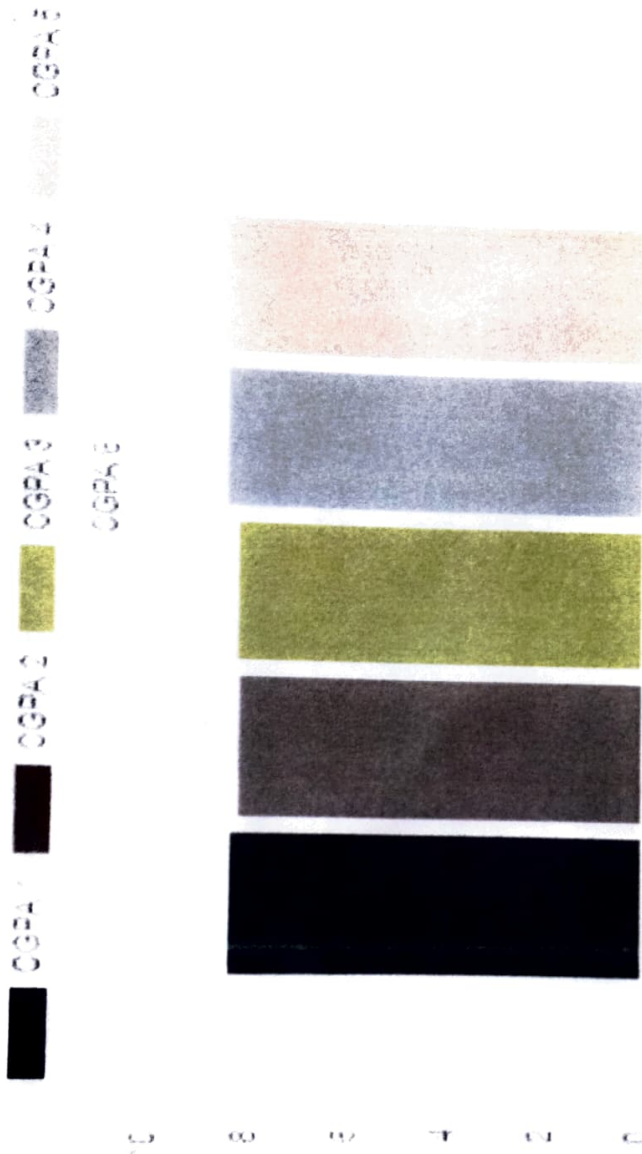
Acknowledgements:

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)	N Kar
Dr.Sankar Ghatak (External Member)	S.Ghatak
Head of the Department – Ceramic Technology	Ritupramo Lu
Head of the Department - Information Technology	M. Maitra.
Head of the Department – Computer Sc and Engg	K. Saho.
Head of the department of Basic Sc, Engg and Humanities	
Prof. Ranjan Roy	
Controller of Examinations	Haldar
Convener	Kaleeri Das

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Mean Data of CT 2018-2022

CGPA 1 CGPA 2 CGPA 3 CGPA 4 CGPA 5

CGPA 6

Mean Data of IT 2018-2022

Mean Data of CSE 2018-2022

Distribution of CGPA 6 for UG CT (2018-22 Batch)
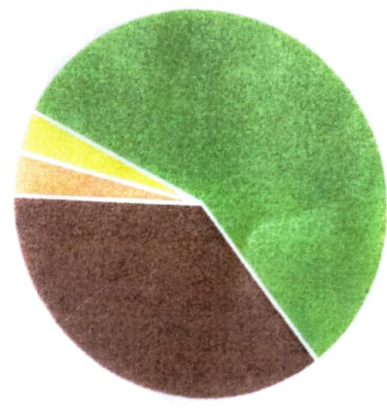
- Below 7
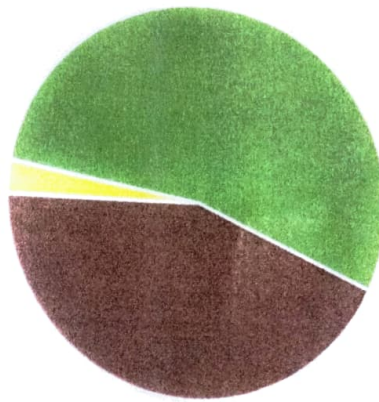- 7 to 8
- 8 to 9
- Above 9

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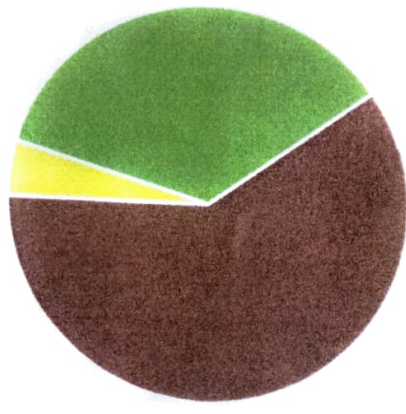& Ceramic Technology
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Distribution of CGPA 6 for UG IT (2018-22 Batch)

- Below 7
- 7 to 8
- 8 to 9
- Above 9

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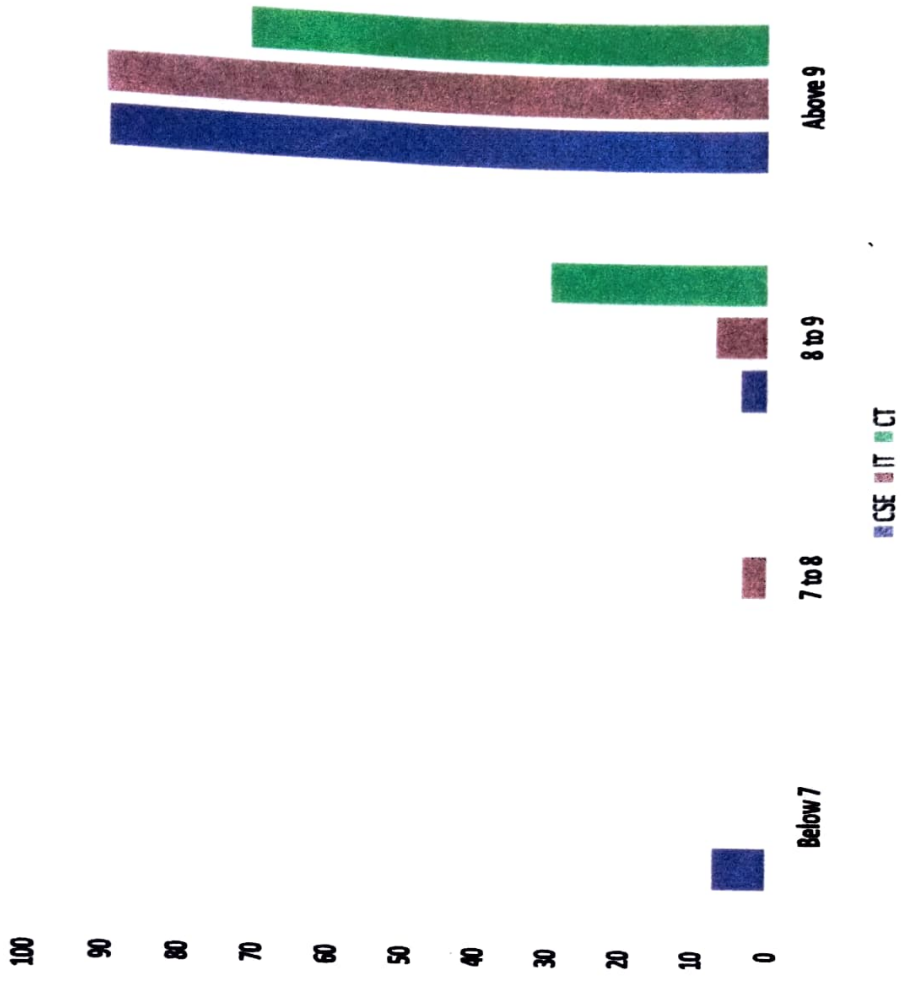
Distribution of CGPA 6 for UG CSE (2018-22 Batch)

Below 7   7 to 8   8 to 9   Above 9

Distribution of CGPA 2 for B.Tech 2020-2024 batch

Legend: CSE | IT | CT

	CSE	IT	CT
Below 7	7.142857	0	0
7 to 8	0	3.448276	0
8 to 9	3.571429	6.896552	29.62963
Above 9	89.28571	89.65517	70.37037

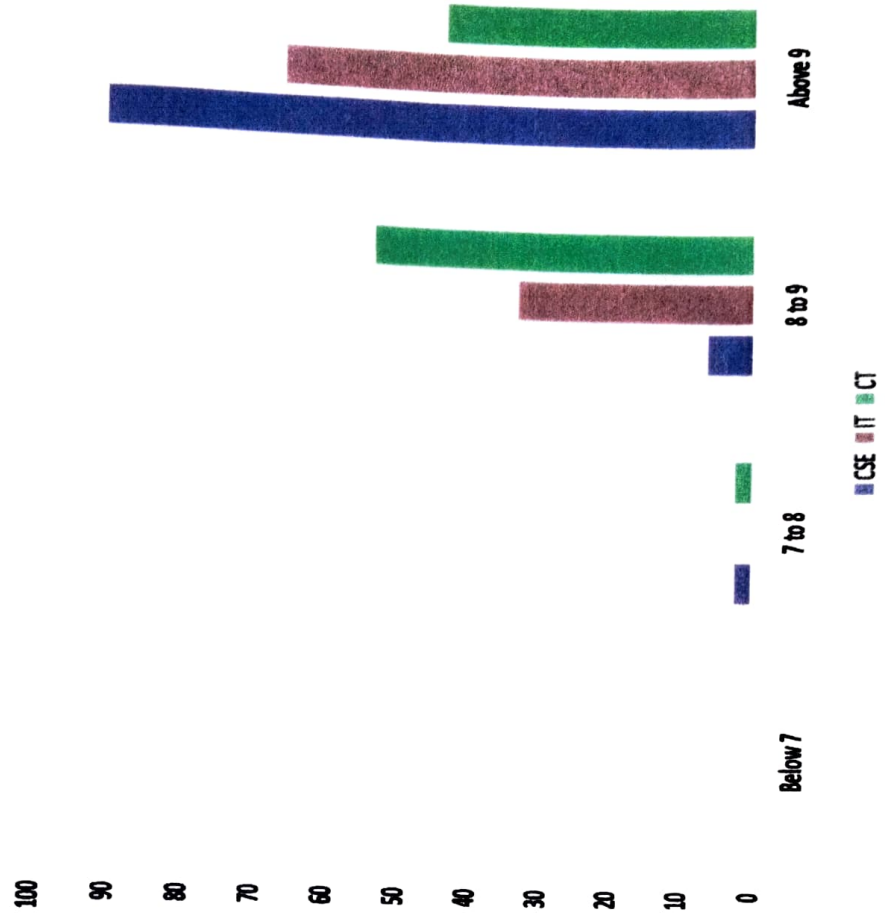| Total students	28	29	27
Below 7	2	0	0
7 to 8	0	1	0
8 to 9	1	2	8
Above 9	25	26	19

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Distribution of CGPA 4 for B.Tech 2019-2023 batch

	CSE	IT	CT
Below 7	0	0	0
7 to 8	2.12766	0	2.439024
8 to 9	6.382979	33.33333	53.65854
Above 9	91.48936	66.66667	43.90244

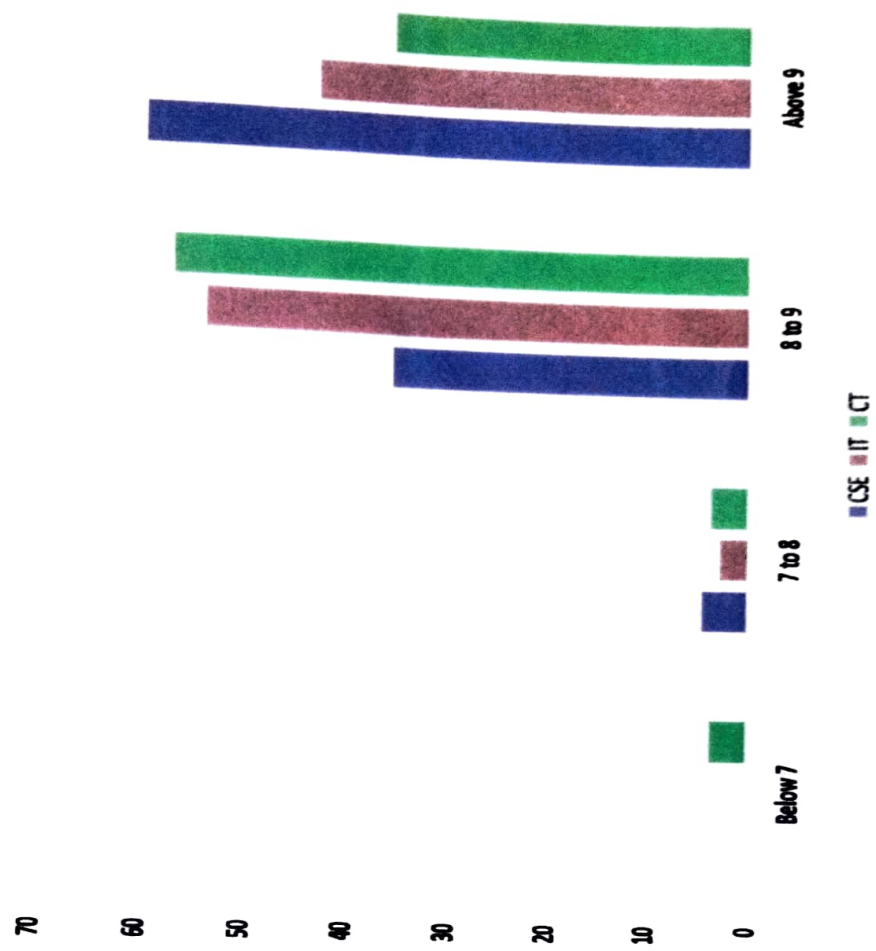| Total students	47	42	41
Below 7	0	0	0
7 to 8	1	0	1
8 to 9	3	14	22
Above 9	43	28	18

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Distribution of CGPA 6 for B.Tech 2018-2022 batch

	CSE	IT	CT
Below 7	0	0	3.571429
7 to 8	4.444444	2.702703	3.571429
8 to 9	35.55556	54.05405	57.14286
Above 9	60	43.24324	35.71429

	CSE	IT	CT
Total students	45	37	28
Below 7	0	0	1
7 to 8	2	1	1
8 to 9	16	20	16
Above 9	27	16	10

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