



KARNATAKA UNIVERSITY'S

**KARNATAK SCIENCE COLLEGE, DHARWAD**

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## **6.5 - Internal Quality Assurance System**

### **6.5.1 - Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes**

IQAC is one of the major policy making and implementing units in our college. It strives hard for upgrading the college infrastructure and all support facilities to meet the standards of higher education and growing need of students. It assesses and suggests the parameters of quality education. The Internal Quality Assurance Cell (IQAC) has been established in our College at the instance of the National Assessment and Accreditation Council (NAAC), as a post-accreditation quality sustenance measure.

The IQAC Cell of our college works towards improving and maintaining the quality of education, by identifying and suggesting new ways of using teaching aids, developing suitable infrastructure, and offering suggestions for the start of new self-finance courses in the college. IQAC is an effective and efficient internal coordinating and monitoring mechanism. The IQAC meets twice in a year in order to plan, direct, implement and evaluate the teaching, research and publication activities in the College. The sub-committees dealing with various activities and departments implement the IQAC guidelines and report the feedback. Significant improvements in quality have been made by institutionalizing the following IQAC initiatives: Strategic planning of key areas and assigning responsibilities –

#### **1. Academic and Administrative Audit through IQAC :**

The college takes academic audit of the college, each department, office, library, hostel, and health centre every year through IQAC in order to increase and maintain the quality of education. As per the guidelines of the Karnatak University, Dharwad, the Principal prepares a list of experts consisting of 10-15 members and gets approval from the Vice-Chancellor and then, the Principal sets up a committee with three recommended experts to assess the academic and administrative matters of the college. The committee collects the academic plan and work done in each department, college office and other supporting units in the college, including publication, extension activity, collaborations, innovative and best practices, assignments, ICT based activity, student's competitions, seminars and workshops for better performance. The expert committee submits its evaluation report to the Principal and the IQAC. The same is placed before the HOD's, in a meeting called for discussion of the same, for suggestions and approval. IQAC, in turn strives to implement the suggestions made by the AAA committee in its report.

- As a result of implementation of suggestions made by the academic audit committee, it is found that all departments have been constantly improving their curricular, co-curricular, and research activities.

**Academic and Administrative Audit (AAA) Committee Visit, 27<sup>th</sup> December 2022**

**To**

**Karnatak Science College, Dharwad**

(A Constituent College of Karnatak University, Dharwad)

**A Report of AAA Committee**

Karnatak Science College is a co-education constituent institution of Karnatak University, Dharwad. Dr. S. C. Chougale is its Principal and Dr. L. T. Nayak is the Coordinator of IQAC. The College comes under UGC 2f and 12(B). It was accredited for the third cycle in 2019 at 'B' Grade with CGPA of 2.22. The accreditation validity will end on 3rd March 2024. The IQAC was established in the year 2001 and an 18-member committee was formed. It appears that the committee did not propose strategies and goals to be achieved. However, there have been a number of programs/events, etc, conducted by the IQAC as per discussions at the meeting of the above said committee. The IQAC submitted AQAR for the year 2020-21.

The College offers BSc, BCA and BSc (Computer Science, CS) as Undergraduate programs with the following subjects for choosing combinations – Botany, Computer Science, Chemistry, Criminology/Forensic Science, Geography, Geology, Mathematics, Physics, Zoology, Statistics, Biotechnology, Microbiology and Genetics. The College also offers Self-financed Post-graduate MSc programs in Chemistry, Mathematics and Physics. As for BSc, BCA and BSc (CS), in all there are 27 courses offered under CBCS Scheme with the option of choosing Open Electives, thereby providing flexibility to the students. MSc programs are also offered under CBCS Scheme. There have been a total of 1856 students for the year 2020-21 with the students of BSc/BCA/BSc (CS) at the entry level account

for 579 and 104 for the three MSc programs based on the merit-cum-roster as per the State Government rules as and when notified by the Karnatak University. As a result, the students belonging to all social categories were proportionally represented in the enrolment. The Demand Ratios ~ 4.0, 3.0 and 1.0 stood respectively for BSc, BCA and BSc (CS) programs. The PhD programs are also offered in Botany, Zoology, Criminology/Forensic Science, Geology, Geography, Chemistry and Physics. To this end, the concerned individual teachers have secured grants of Rs. 92.02 lakh from under three MRPs and of Rs. 4.0 lakh under eight Minor Projects. Required research labs have been set-up and, when needed, concerned faculty members have been using instrumentation facilities at USIC, PURSE, UPE-FAR and SAIF programs established at Karnatak University. Out of 78 PhD registered candidates, 15 candidates have been on fellowship. Seven candidates were awarded the degree during 2020-21.

**Observations and Commendations:**

1. IQAC prepared the following Plan of Action:
2. Demand ratio for BSc: 4.0 per vacancy; BCA: > 3.0 per vacancy; BSc (CS): 1.0 per vacancy.
3. Passing percentage at aggregate level: For BSc – 86; BCA – 85; BSc (CS) – 90. Similarly, for MSc (Chemistry) – 88; MSc (Physics) – 90; MSc (Maths) – 92. While two students secured sixth and eighth ranks at BSc, one rank was secured at MSc (Chemistry).
4. There are 92 full-time teachers as against 43 sanctioned posts. Of these, the number of teachers with PhD is 55. The number of teachers recognized as research guides is 22.
5. The student-to-teacher is ~ 20:1. Similarly, the mentor-to-student (mentee) ratio is ~ 1:20.

6. There are adequate full-fledged 32 class rooms and seminar halls, 30 labs and 84 computer systems. Wherever required, accesses to some lecture rooms are provided by constructing ramps for the differently-abled persons. Respective laboratories are also well-equipped, ventilated and airy. The five museums (Botany, Zoology, Criminology/Forensic Science, Geology and Geography) have been an important part of the pedagogy and public outreach.
7. The syllabi were revised during the year 2020-21. However, curriculum enrichment is not apparent across all the 27 courses although it is claimed to have been incorporated but not shown in specific course papers from the syllabi.
8. The CBCS Scheme was implemented with effect from 2020-21, after a protracted delay.
9. Conduct of exams, valuation and declaration of results has been completed as per Karnatak University norms/regulations. Redressal of the related issues/grievances have been conducted and resolved satisfactorily.
10. NCC/NSS Units have been active, engaging in a number of on-campus activities.
11. A number of specific waste management procedures have been adopted but not shown as data.
12. One MoU has been signed by the College with Nichrome Testing Laboratory and Research Pvt. Ltd., Dharwad.
13. Feedbacks have been collected and analyzed from all the stakeholders. However, no action reports have been mentioned in the AQAR report.
14. As for Teaching-Learning processes, there have been a number of events conducted but not available in data form to support it.

15. Program Outcomes (PO) and Course Outcomes (CO) have been provided in the syllabi but are too generic to be useful.
16. Total research grant received at the individual level is ~ Rs 65.00 lakh. There two departmental level research projects.
17. Number of research papers published in International journals - 104; National journals – 11; Book chapters, 01. Number of collaborations is 05.
18. Number of extension/outreach programs conducted is 38.
19. Augmentation/renovation of the existing physical infrastructure (i.e., class rooms, library, labs, etc) has been carried out at a cost of Rs.138.85 lakh.
20. Rs.1.44 lakh has been utilized towards the purchase of books, periodicals, subscription to journals, etc, by the Central Library.
21. While 243 students benefitted by the scholarships provided by the government, whereas the 15 students benefitted by the NGOs, etc.
22. While 11 students have passed national/international level tests (i.e., KSET/NET/GATE/GRE), etc, but there is no break-up of the data to support it. Similarly, there is no accurate data to support their progression to higher studies and placements.
23. Except two ranks at BSc and one rank at MSc (Chem), hardly any awards, medals or any other recognition have been earned by the students; this may be seen as a reflection of the absence of the motivation and competitive spirit in them.
24. Much needs to be done in the over-all administrative machinery to implement e-governance with minimum delay. Further, the College will pursue Karnatak University to provide financial support to the needy teachers for attending the conferences, etc, and training for the office staff to make them computer-literate.

25. All the things considered, the College has performed very satisfactorily in all categories, namely, *Curricular Aspects, Teaching-Learning and Evaluation, Research (both in terms of output and securing grants from the funding agencies), Extension, Infrastructure augmentation, Students Support Services and Progression, Governance, Institutional Values and Best Practices*, and therefore, AAA Committee compliments all the students, teachers, the Principal, the IQAC Coordinator, non-teaching staff and all the concerned stakeholders.

**Recommendations:**

In the light of the above Observations and Commendations, the Committee wishes to make the following Recommendations:


1. IQAC will ensure that the 18-member committee constituted from the beginning proposes clear-cut strategies and quantitative metrics as achievable goals. One Deputy Coordinator may be nominated to ease pressure on the Coordinator as has been done at KUD. Further, required guidance may be sought from the IQAC at KUD.
2. The transfer of the teaching faculty belonging to Mathematics presently in the Karnatak Arts College will be expedited before 2024.
3. To recruit adequate number of teachers for all the departments including those where additional subjects are offered, namely, Biotechnology, Microbiology and Genetics, it is appropriate to show them as independent entities for proper deployment and filling of sanctioned posts. In this matter the College will take necessary steps to persuade Karnatak University.
4. Of the two Best Practices claimed by the College, namely, 'Mentoring System' and 'Solid Waste Management', the latter alone would qualify as

the 'Best Practice' whereas the former practice is the part and parcel of the 'Teaching-Learning' process.

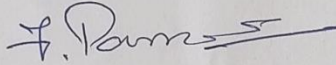
5. The existing Alumni Association to be strengthened so as to become integral part in the development of the College with new programs.
6. Since the fourth cycle of assessment and accreditation by the NAAC is due in 2024, IQAC will strictly comply with the requirements of AQAR to create year-wise quantitative data, documents, committee minutes and so on, and collate the same for consolidation and usage in the preparation of SSR and its successful submission. Both IQAC and the College would strive to earn a minimum of 'A' Grade that is richly deserved by the College.

**AAA Members:**

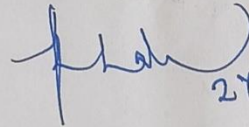
1. Prof. B. Basavanagoud  
Dean, Faculty of Sci & Tech  
Dept of Mathematics, KUD.

  
(B. Basavanagoud)

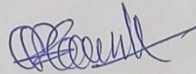
2. Prof. J. R. Tonannavar  
Dept of Physics, KUD.



3. Prof. M. Y. Kariduraganavar  
Dept of Chemistry, KUD.

  
27.12.2022

4. Dr. Ganesh  
Dept of Zoology, KUD.



## 2. Implementation of Green practices in the campus:

The IQAC initiate various green practices to maintain eco-friendly environment in the college campus through various activities Viz., Tree Plantation in barren land, paper-less office through e-governance, creating plastic free zones, keeping Clean and Green Campus, saving electricity by way of installing solar panels, workshop for preparation of Paper Bags, Awareness Programme on Renewable Energy sources and their utilization, and e- Waste Management. For the implementation of green practices, IQAC distributed the responsibility of conduct of these activities among the various departments. IQAC constantly takes the feedback from the stakeholders.

- Because of these practices, eco-friendly and pollution free environment is created in the college campus. The college practices green auditing through carbon sequestration, which indicates the vegetation density.

### **Green Audit Report of Karnatak College Campus, Dharwad 2021-22**

A total of 98 tree species belonging to 83 genera of 33 families were studied in 68 quadrats in the campus. Tree species such as *Peltophorum pterocarpum*, *Delonix regia*, *Senna siamea*, *Tamarindus indica* and *Pongamia pinnata* are spread throughout the campus. Whereas species such as *Bombax ceiba*, *Butea monosperma*, *Couroupita guianensis*, *Kigelia africana*, *Santalum album*, *Saraca asoca*, *Swietenia mahogany* and *Tabebuia impetiginosa* are also present. In case of *Adansonia digitata* and *Guaiacum officinale* are cultivated have representing a single specimen each in the campus or Dharwad city as such. Total number of individuals of all the tree species measured for carbon sequestration and importance value index are 1387 trees. Among these Fabaceae has the highest IVI of 3510.29 followed by Ulmaceae with IVI of 250.06 which is followed by Meliaceae with IVI of 180.27.

In Karnatak College Campus the study resulted in showing *Senna siamea* is the highest carbon sequestering tree species (carbon storage of 359834.71 g/tree) followed by *Peltophorum pterocarpum*, *Tamarindus indica*, *Delonix regia* and *Holoptelea integrifolia* being the top five highest carbon sinking tree species respectively, and also with maximum tree biomass in the campus. Analysis of its habit shows that, trees are dominant followed by shrubs, herbs and then climbers. Estimation of tree biomass through non - invasive and allometric methods leads to estimation of carbon



sequestered. The total carbon storage in Karnatak College Campus is 163.2 tons (163149358.3 g) in all standing tree species of Karnatak College Campus, Dharwad.

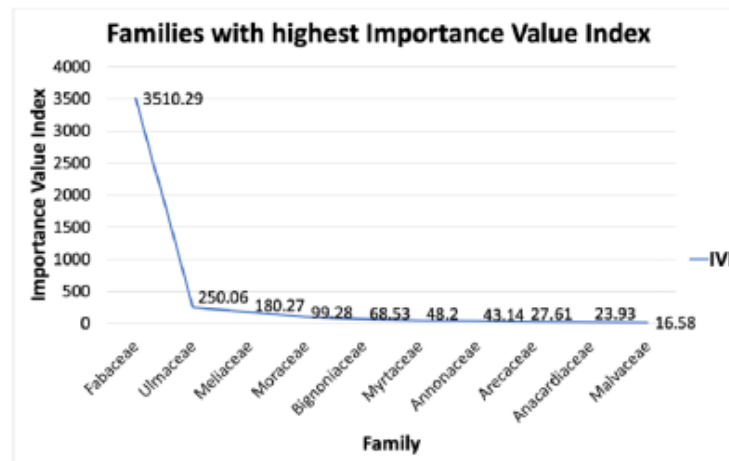


Fig.1: Families with highest Importance Value Index in Karnatak College Campus, Dharwad

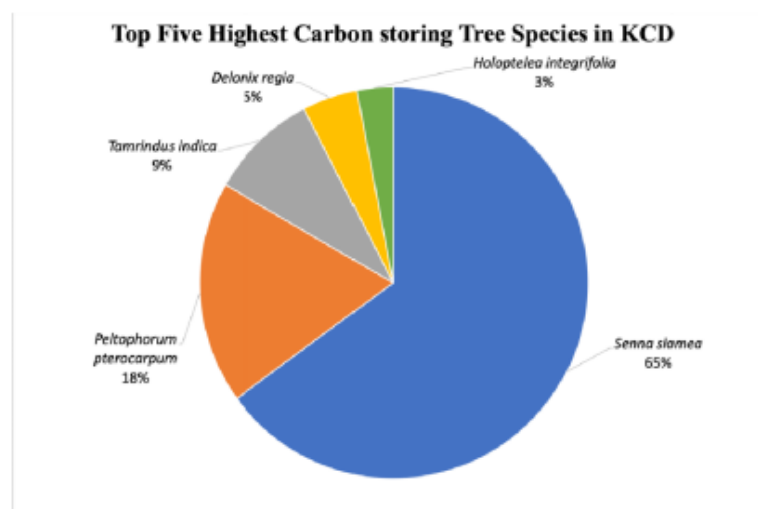


Fig.2: Top five highest carbon sequestering tree species of Karnatak College Campus, Dharwad

### 3. Use and enrichment of ICT infrastructure

The use of ICT tools has become an integral part in teaching -learning process. IQAC always encouraged teachers to utilize these tools in classroom teaching and laboratories. IQAC plans and encourages all the staff members to use and enrich the ICT facilities in each department. The IQAC monitors the periodical maintenance of ICT facility and its upgradation. All the staff members in the different departments of the

college are provided with broadband internet and Wi-Fi facility. IQAC reaches out to all the students. IQAC advises the staff members to use Social media like WhatsApp, YouTube etc., to educate as well as communicate with the students regarding their curricular and co-curricular activities. Feedback mechanism has been effectively implemented through social media.

**Outcome:** Able to reach students in quick and effective manner.

#### IT FACILITIES INCLUDING WI-FI in College



#### IT FACILITIES INCLUDING WI-FI in Central Library



#### LAN facility in the Digital Library

4.

#### Adopting Induction programme:

The IQAC has been consistently conducting an Induction programme for fresher's (that is, for students admitted to the first semester of B.Sc., BCA and B.Sc.(CS), M.Sc. Physics, Chemistry and Mathematics) in the beginning of the odd semester, in order to introduce them to all the teachers of different departments, to give details about the courses offered, infrastructure facilities available, responsibilities of the students, code of conduct and disciplinary actions, different cells in the college to monitor the student's

academic progression, medical facility, banking facility, NCC, NSS, gymkhana facilities, Students welfare and placements.

**Outcome:** Due to this best practice, the newly admitted students in the campus get authentic information about the infrastructure, departmental facilities, teaching and non-teaching staff of the college, as a consequence of which these facilities are easily accessed by the students.

**IQAC initiative Induction programme for first year B. Sc, BCA and B. Sc (CS) students, dated 20-11-2021**



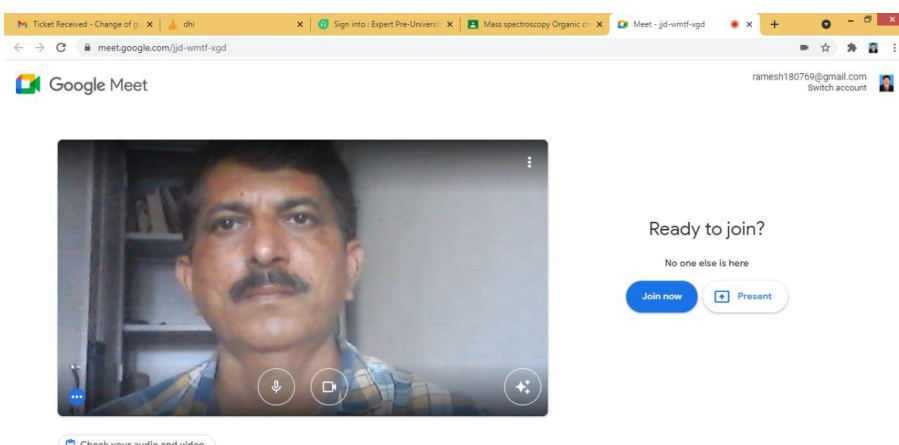
## 5. Organized academic development Programmes:

The IQAC organizes various academic development programmes, like soft skill development and programmes on improving the quality of education.

- **Outcome:** Teaching learning was effective through these IQAC initiated programmes.

**i) Online webinar:** Online webinar programme conducted on account of world environmental day On 05-06-2021. Dr Rajesh Gani has been invited as a Resource person from Mangalore University, Mangalore. This talk was very much useful for the students to aware about the importance of protection of **Environment in all respect**.

## Dr.Raesh Gani has delivered invited talk through virtual mode



Ready to join?  
No one else is here  
Join now Present  
Check your audio and video



**ii) Plantation Programme (28-06-2021):** To enrich the greenery and maintain good environment at the college campus, Principal Smt. A.S. Belad and Staff members along with college NSS team arranged plantation programme.

### **Plantation programme**



**ii) Vaccination programme:** NSS Cell associated with college medical centre conducted Vaccination programme on 30-06-2021 for Covid -19 in college campus.



**iii) Celebration Indian constitution day:** Indian constitution day was celebrated on 26-11-2021 to know the importance of Indian constitution for all round development of Nation among the students.

**Celebration Indian constitution day**



**iv) Training programme on Intellectual Property Rights and Code of Conduct:** One Day Training Programme for Teachers on Intellectual Property Rights and Code of Conduct was arranged on 18-06-2022. The Karnatak Arts and Science College, Dharwad faculty members who participate in this programme receive information on the employee code of conduct (also called a staff code of conduct) is a set of rules about how employees can and can't behave during work hours.

In addition to this, teachers learnt about patents, copyright, industrial design rights, trademarks, plant variety rights, trade dress, geographical indications, and in some jurisdictions, trade secrets. The legal foundations and procedures of national and international patent law are thoroughly and methodically covered in this training programme.

**Training programme on Intellectual Property Rights and Code of Conduct**



**v) Save Soil Under Value Based Activity for NEP Students:** On June 23rd , 2022 in collaboration with the Sadhguru Foundation Save Soil Under Value Based Activity for NEP Students, educate students about the global soil crisis, how it inspires people to take action for soil health, and how it encourages leaders from all over the world to implement national policies and initiatives that will increase the organic content of cultivable soil.

### Save soil programme



**vi) Training for Competitive Examinations:** On June 28<sup>th</sup>, 2022 organized the special lecture on Training for Competitive Examinations in C-1 hall, Karnatak Science College, Dharwad. The special interaction was made by P. Dastagiri Reddy, Chairman, Sri Guru Raghavendra Educational Institutions, A. P. with B. Sc. Students.

### Training for Competitive Examinations



**vi) Climate Change: An Expedition to Antarctica:** On July 22<sup>nd</sup>, 2022 a special lecture on climate change: an expedition to Antarctica was held to inform students of the significant effects of climate change. Smt. Deep J. Contractor, IFS, Deputy Conservator of Forests, Karnataka Forests Department, Government of Karnataka, discusses her experience on an Antarctic expedition and how climate change is affecting marine life and ice glaciers in this lecture.



## 6. Placement Drive:

IQAC proposed to conduct regular placement drives in the courses like BCA, B.Sc. (CS), and M.Sc (Physics).

**Outcome:** Accordingly, these departments have conducted placement drives and many students from these departments have been selected by many private companies and service providers (corporate sector).

## 7. Assessment of teacher's performance:

An effective feedback mechanism was adopted by IQAC to collect the students feedback about the teachers in the online mode (Google forms), focusing on different academic aspects. After analysis, the performance report of each individual teacher is represented in the graphical form, and the same is submitted in a sealed envelope to the Principal, with a request to serve the same to the teachers.

**Outcome:** Individual teacher comes to know about their academic performance, and this paves the way for an improvement in their future performance.



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**PARAMETERS CONSIDERED FOR FEEDBACK FROM THE STUDENTS ON TEACHERS:-  
COLLEGE AS A WHOLE**

Question No.s	Parameter
1	Teacher covers the entire syllabus
2	Teacher discusses topics in detail
3	Teacher possesses deep knowledge of the subject taught
4	Teacher's communication with students
5	Teacher inspires me by his/her knowledge in the subject
6	Teacher punctual to the class
7	Teacher engages the classes for the full duration and completes the syllabus in time
8	Teacher comes prepared for the class
9	Teacher provides guidance and counselling for academic and non-



	academic matters in / outside the class
10	Teacher encourages students participation and discussion in class (Teacher Student, Student-Teacher)
11	Teacher pays special attention to slow learners as well
12	Teacher relates the course material with present situations
13	Teacher's attitude towards the students friendly and helpful
14	Teacher attend students queries in the class
15	Teachers overall attitude in the class
16	Internal examinations and Periodical assignments were conducted as per schedule
17	Question paper covers all the topics in the Curriculum
18	Teacher is fair and unbiased in the evaluation Process
19	Overall

PRINCIPAL