

**PROPOSAL OF FIVE YEAR INSTITUTIONAL
DEVELOPMENT PLAN**

SUBMITTED TO

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Five year Institutional Developmental Plan of Government Science College Gadchiroli

Gadchiroli is situated in the south-eastern part of Maharashtra state. Gadchiroli district shares its boundaries with Chattisgad and Telangana states. The district is categorized as tribal and undeveloped, with farming as the main occupation. Forests cover more than 79.36% of the hilly geographical of the district. Gadchiroli district is characterized by a large share of tribal population and suffer from severe gaps in educational infrastructure development. Gadchiroli is one of the 90-odd districts that are affected by Left Wing Extremism. As a result, the higher education infrastructure in the Gadchiroli district is inadequate and at a lower level than the rest of the areas.

A majority of students drop out after completing primary or secondary education and help parents in farming. Low levels of higher education literacy situation arose in the Gadchiroli district on account of absence of good education facilities. In Gadchiroli district most of the colleges are operated on non-grant basis. Very few colleges have post graduate courses and all are run on non-grant basis. The colleges imparting graduation and post graduate courses are located in Aheri, Armori, Wadasa or in Gadchiroli city. In these colleges hostel facilities are not available. Further pursuing the higher studies in these colleges are expensive as they are operated on non-grant basis. This resulted in to high dropout rates in college students belonging from remote areas. Similarly due to lack of basic amenities like roads, water and power, the higher education, however, remains a distant dream for students from Gadchiroli especially villages like Nelgunda, Binagunda, Bhatpar and others. Therefore, there is urgent need to bridge the gap in higher education literacy levels between the general population students and tribal students, through facilitating enrolment of tribal students for higher education. Similarly there is urgent need to work on literacy rate, gross enrolment ratio, dropout rates and Gender Parity Index of tribal education.

Government Science College Gadchiroli is a degree college in Gadchiroli district Maharashtra, India. The College is established on 11/09/1987 and run by Government of Maharashtra, Department of Higher and Technical Education, Mumbai (M.S.). It is the only Government College in this remote/tribal place of Gadchiroli running under-graduate and post graduate courses in sciences. The college has been under the jurisdiction of the Gondawana University, Gadchiroli. The college offers basic courses like Botany, Chemistry, Computer Science, Physics and Zoology at under-graduate level (For basic information of college please see Table 1). The college offers Masters Degree in Botany, Chemistry and Zoology on non-grant basis. Students from Aashti, Gondpimpri, Dhanora, Chamorshi and other remote areas pursuing graduate and post graduate degree in college. As Government Science College is only Government College in Gadchiroli district, students are relying on this College for pursuing the higher education. In this context Government Science College have to play an important role in improving the higher education status in Gadchiroli district. Considering the role of Government Science College in improving the quality of teaching, learning and research, college prepared the roadmap for next five years.

Institutional Development plan Government Science College Gadchiroli	
Vision	Primary Goal <ul style="list-style-type: none"> • Increase the Gross Enrollment Ratio (GER) • Reduce the dropout ratio • Provide multiple learning tools • Training no longer be defined by Time and Place
Needs	Internal needs <ul style="list-style-type: none"> • Incorporation of Modern Pedagogy tools • Professional Development of teachers • Integration of technology in teaching • Optimization teaching-learning Environment • Improvement in Training Indicators-Skilled personnel development
Action Plan	Support and Progression <ul style="list-style-type: none"> • Effective Student mentoring • Innovative Academic support • Superior Technical support • Career Guidance • Improvement in Intelligence and Emotional Quotient (IQ and EQ)
	Infrastructure Development <ul style="list-style-type: none"> • Improvement in Library resources • Enhancement and improvement in Laboratory infrastructure • Improvement in Computer Laboratories • Learning Management System
	Research and Innovation <ul style="list-style-type: none"> • Improvement in Research by post graduate students • Improvement in research by Ph.D. students • Training courses and immersive training • Development of state of art Instrumentation facility • Advice and consultation
Outcomes	Outcome's Impact <ul style="list-style-type: none"> • Increased GER in Higher education • Increased learning outcome of students • Academic and non-academic reforms • Improvement in Employability of students • Enhancement in research and consultancy activities • Strengthen and sustain well performing activities

The main objective of proposed plan is to increase the Gross Enrollment Ratio (GER) in higher education and significant reduction in dropout ratio. To achieve the primary goal there is need to build thriving and sustainable infrastructure facilities to create a community for addressing the various basic and fundamental issues of tribal society. Initiatives to nurture and facilitate the development of students of tribal area are one of the thrust areas of mission of Government Science College Gadchiroli. Similarly, excellence and equity initiative of the Government Science College aims to support learning, teaching, sports and ethical culture in tribal population. Government Science

College wishes to elevate the learning, teaching and research activities of low-income and tribal students. As part of a campaign to promote the learning and research in tribal population Government Science College wish to upgrade the existing infrastructure facilities in the college in to the best academic institute in the Vidarbha region of Maharashtra.

As our students are coming from special background, our philosophy of teaching to students is to provide quality instruction based teaching in an active and stimulating learning environment. To create an active and stimulating learning environment, communication with students, relevant curriculum material and discussions are the most relevant activities. We believe that students should experience frequent and repeated opportunities to interact with teacher. Relevant curriculum materials should be provided timely to students. Standards of teaching should be high, yet attainable to facilitate optimal student learning. Our emphasis is always on helping the student to learn, rather than just dispensing my knowledge to them. Our overall teaching philosophy is based on two principles, (a) instruction and interactive teaching which strongly influence student-learning outcomes; and (b) assessment procedures strongly influence student acquisition of knowledge. Our goal is to facilitate the learning process, focusing on subject matter in area of expertise, using convention and advanced teaching tools available. Therefore, we wish to employ various strategies that will extend the teaching well beyond the lecture hall. We will emphasize the importance of communication by using a variety of audio visual techniques to motivate the students to learn. Similarly we want to employ the stealth assessment method along with conventional methods to assess the dissemination of knowledge in student. Our aim is to encourage students to solve problems creatively, which helps them learn to think outside conventional boundaries and to seek the deeper meaning of a concept or finding. To achieve the our goals and support our philosophy, we will employ new pedagogy tools like flipped classroom, research based pedagogy tools, cross over learning, learning through augmentation, incidental learning, computational thinking, learning by doing science with remote laboratories, and embodied learning. College will establish learning management system, use Ed-tech sites and open learning tools to improve the learning environment in the college.

In five year Institutional Development Plan, we have proposed new post graduate courses, increased intake capacity of existing courses, new facilities such as laboratory building, instrumentation center, language laboratory, competitive examination section, computational facility and up gradation of existing facilities of library, laboratory and physical education in to a state of art facilities. After implementation of proposed institutional development plan Government Science College will converted in to a complete Institute which will provide quality education along with technically sound and socially relevant research to tribal communities. Similarly Government Science College will provide open access to research laboratories, library and e-resources to all research scholars and students of Gadchiroli and Chandrapur area, especially low-income and tribal area students. Additionally faculty of college will provide advice and consultation to local communities to address the relevant issues.

Implementation of development plan in next five years will definitely improve the learning-teaching environment in Gadchiroli. The recruitment of faculty members and

development of infrastructure will result in improved GER in tribal and rural population of Gadchiroli. The initiative under taken under this development plan will increase the learning outcomes of students. Academic and non-academic reforms suggested under this proposed plan in result into improvement in employability of students, enhancement in research and consultancy activities and will strengthen and sustain the well performing activities. Implementation of institute development plan will improve the overall teaching-learning experience in Government Science College. The academic and non-academic reforms suggested in this plan will transform the college in complete institute which play important role in fulfilling the educational need of tribal area and play crucial role in solving burning issues of this region.

Vision and mission of Government Science College Gadchiroli

Vision

- To be the educational institute of excellence in the field of Science education in tribal area
- To be an innovative and responsive to the educational and self development needs of the tribal communities
- To ensure the learning opportunities and promote the leadership, professional temperament and civic responsibilities among the tribal communities
- To contribute to society through the pursuit of education, learning, and research at the highest levels of excellence.

Mission

- To provide excellent education integrated with ethics, values, equality, compassion and social responsibilities
- To implement the student centric programmes which encourage the tribal students to excel in higher education
- To provide excellent teaching and perform quality research

Strategies

- Utilizing resources effectively to enhance the quality of teaching and learning
- Reaching out to more students in tribal area
- Collaborating with national institutes, Universities and industries to enhance the research environment

Table 1. Institutional Basic information

1	Name of the Institute	Government Science College Gadchiroli
2	Address of the College	Chamorshi Road, Gadchiroli, 442605, Maharashtra, India
3	Is Institution approved by regulatory body?	Yes
4	Type of Institute:	Government Funded
5	Status of Institute:	Constituent Institute Affiliated to Gondwana University Gadchiroli
6	Year of establishment	11/09/1987
7	District	Gadchiroli
8	State	Maharashtra
9	Courses subject taught in the college under various faculties and for which affiliation is granted.	Course: Science Compulsory. English, Marathi, Hindi, Physics, Mathematics, Chemistry, Zoology, Computer Science ,Botany
10	Land available with the College	3.44 hectares
11	Whether land is owned by the Government of Maharashtra.	Yes
12	Hostel facility	Hostel facility is available Separate Boys and Girls hostel
13	Accommodation capacity	Boys Hostel = 50 students Girls Hostel = 50 students
14	Other facilities provided in the Hostel	Water heater, Clean water, water coolers, Dining room, recreation room, lockers etc.
15	Classrooms	14
16	Other facilities provided in the classrooms	Few classrooms equipped with LCD projector
17	Laboratories	Total 5; Botany, Computer Science, Chemistry, Physics, Zoology
18	Other facilities provided in the laboratories	Laboratory Equipment, LCD projector, Interactive boards etc.
19	Area of laboratories	Botany = 2880 sq. feet Computer Science = 1200 sq. feet Chemistry = 2880 sq. feet Physics = 2880 sq. feet Zoology = 2880 sq. feet
20	Library	Books = 23100, Periodicals =12 Science Journals =12, Magazines = 10
21	Other facilities provided in the library	Reading room capacity 120 students Bar code scanner, Server, SOUL software
22	Gymnasium	2 with equipments
23	Sports facilities	Table tennis, Volley ball court, play ground
24	E resource centre	08 computers DELNET, INFLIBNET subscription

Five year plan for institutional development

1.Increase in the Gross Enrolment Ratio (GER)

Gross Enrollment Ratio (GER), a key indicator in higher education, and needs to go up in areas like Gadchiroli. India has a very huge demographic advantage and we need to provide the finest teaching – learning environment to nurture the productivity of youth. In India GER for Higher education is lower as compared to developed countries and improving the quality and quantity of higher education is the only solution to this problem. The students of Gadchiroli have limited opportunities to avail the higher education as there are very few degree colleges. Therefore there is urgent need to introduce new post graduate courses and increase the intake capacity of existing courses.

Primary Goal and strategies to achieve the goal

1. Improve GER in Higher Education

- Increase the number of post graduate courses
- Increase the intake capacity of courses

2. Reduce the dropout ratio

- Enhancing and improving teaching and learning environment
- Address the issues related to dropout ratio

3.Offer multiple learning tools to reach out every student's need

- Learning adapts to each student instead of each student trying to adapt to college
- Teaching-learning no longer defined by time and place

For inclusion and success of under-represented students in the post graduate, research and the Career-related programs, the Government Science College wish to convert the existing non-grant and self finance B.Sc. and M.Sc. courses in to fully aided graduate and post graduate courses. Similarly college will start the new post graduate courses in Computer Science, Physics and mathematics. As the economy of Gadchiroli district is based on agriculture, we wish to start two new courses viz. Agricultural Biotechnology and Industrial Microbiology. In agricultural Biotechnology course, prominence will be given to application of biotechnology in agriculture. In Industrial microbiology course, emphasis will be given on techniques for screening of potential industrial microbes, water and food analysis, fermentation technology, antibiotics tests. These courses will be tailor made to address the fundamental problems related to agriculture in Gadchiroli area and also help improving the traditional agricultural practices. Further these courses will generate the manpower who are ready to work in biotechnology industry.

We believe that Gross Enrollment ratio will increase by offering the new courses and increasing the intake strength of students. To make higher education affordable to tribal community, the existing non grant and self finance courses need to be run on grant in aid basis. Similarly, in this institutional developmental plan, we have proposed 5 new M.Sc. courses and increase in intake capacity of 3 post graduate courses (Table 2). After

introducing the new courses and increasing the intake capacity the number of students which will enrolled for post graduate courses will be increase substantially. The details of workload and manpower required for existing and new courses are depicted in Annexure I to Annexure XII.

Need to reduce the Dropout ratio

In Gadchiroli dropout rate in higher education is very high as compared to other areas in Maharashtra. The dropout rate is higher because of inadequate facilities of transport and hostel and socioeconomic background. The dropout rate could be controlled by reaching out to tribal community, providing academic and support facilities at convenient and affordable rates, counseling of students, providing career and technical education orientation and consultation, providing multiple ways for graduation and use of technology to engage students.

Similarly teachers need to take extra effort in helping slow students. One of the powerful methods to motivate them to learn faster is to guide them through the purpose of the text or content and to make it equally interesting for them to want to learn more. Thus enhancing the learning- teaching environment makes the difference in reducing the dropout ratio.

Offer multiple learning tools to students to reach out every student's need

Because of multiple reasons students unable reach the college every day. In this context learning management systems and open resources and online courses will help the students to cover up the missed syllabus. Government Science College campus is Wifi enabled and internet facilities are available in college campus. Establishment of online Learning management systems, creation of open resources and online courses, is essential to cater the student's academic needs. Similarly these facilities will help students in understanding the concepts effectively.

The improvement in gross Enrollment Ratio (GER) could be improved by increasing the learning opportunities to students. This can be achieved by increasing the intake capacity in college as well as by reducing the drop out ratio. For this purpose skilled teachers and efficient non teaching staff will required. The work load of existing Courses of College (Annexure I to Annexure II) and manpower requirement for running college with student of current academic year has been depicted in Annexure II to Annexure III. The workload and manpower required for existing courses and proposed courses has been shown in Annexure IV to Annexure IX. Summary of financial requirements for construction of new building for Biotechnology block and Instrumentation facility is given in Annexure X.

Table 2. Existing Academic divisions and programs**UG/PG/PhD programs will be offered in Government Science College Gadchiroli**

Sr. No.	Course	Duration	Annual intake	Whether Approved by UGC	Course Status
1	B.Sc. I,II,II PCM (Physics, Chemistry, Mathematics)	Three years	180	Yes	Existing Grant in Aid
2	B.Sc. I,II,II PCOM (Physics, chemistry, Computer Science)	Three years	180	Yes	Existing Self finance
3	B.Sc. I,II,II CBZ (Chemistry, Botany, Zoology)	Three years	360	Yes	Existing Grant in Aid
4	Chemistry M.Sc. I,II	Two years	44	Yes	Existing Non grant
5	Botany M.Sc. I,II	Two years	44	Yes	Existing Non grant
6	Zoology M.Sc. I,II	Two years	44	Yes	Existing Non grant
7	Ph. D. courses in 3 departments Botany Zoology Chemistry	09 11 07		Yes	

2. Need to improve the Learning –teaching environment

Over the years, through various initiatives, Government Science College made education accessible to all stakeholders in tribal area. The need of time is to ensure that students remain enrolled, and learn, so that they become empowered and productive citizens, who can be the key participants in nation-building and growth-linked economic development. To achieve this, an enabling ecosystem will have to be developed which comprises college premises along with facilities that are inviting for students, teachers who have a passion for their chosen vocation, pedagogy that transitions from rote learning to conceptual methods that can keep both teachers and students engaged and engrossed among others. Teachers have to play key role in ensuring that students get the requisite lessons that keep their minds ignited for seeking knowledge. Students' likes and dislikes for attending classes, or interests in a particular subject, can be linked to their teacher and his/her quality of teaching. College will achieve the challenge of improving quality of teaching by training teachers and supporting them with modern teaching aids, tools and methodologies like smart classrooms and digital course content. Only investing in education institutional premises is not enough, these will become centres of learning only if the students and teachers connect, and interest in teaching and learning is enhanced using appropriate pedagogy.

Internal needs and strategies to address these issues

1. Incorporation of modern pedagogy tools in teaching

- Flipped classrooms, Learning through argumentation, Research based pedagogy tools, cognitive thinking, context learning, computational thinking

2. Improvement in quality of teachers and professional development of teachers

- Orientation, refresher, short term courses and workshops for teachers

3. Integrate technology, soft skills in teaching and learning

- Learning management systems, EdTech sites

4. Innovative assessments

- Concept maps, concept tests, constructive alignment

Having smart classrooms in college could go a long way in addressing this need of an enabling ecosystem with features and facilities like digital content, broadcasting classes conducted by experienced teachers, interactive classes through video conferencing, etc. There is an additional need to have monitoring procedures and processes in college so that learning outcomes are regularly assessed and remedial measures can be taken in a timely manner to address shortcomings. In proposed plan college envisaged to use modern pedagogy tools such as flipped classrooms, research based pedagogy tools cognitive thinking, context learning in teaching. College will encourage teachers to participate in orientation, refresher, SWAYAM courses and MOOC courses. College will employ the innovative assessment methods such as concept maps, concept tests and constructive alignment in teaching.

3. Support and progression

The curriculum courses are designed by Gondwana University and college implements the curriculum and follows the rules and regulation laid by University while conducting courses. College provides students the extracurricular opportunities such as participation in sports, NSS activities. The learning capacity of each student is different therefore support and progression initiatives plays crucial role in development of students. In addition, the average time students devote to studying varies widely among different colleges and different area. Effective mentoring, innovative academic support, superior technical support, career guidance and improvement in intelligent and emotional quotient plays crucial role in student progression. Students of Gadchiroli area need more support from teacher and college as they living in environment which is not conducive to education. Additionally regional problems such as left wing extremism plays important role in determining the psychological status of students. Although students are intelligent because of psychological pressure they could not perform well in examination. Therefore improvement in emotional quotient plays crucial role in improving the learning ability of students. Using various resources available in form of books, websites, and tutorials will be used to improve the intelligence and emotional quotient of students.

Support and Progression

1. Effective student Mentoring

- Semi structured guidance, orientation, advice

2. Innovative Academic support

- Group study, academic help, guidance

3. Superior technical support

- Use of computer technology for teaching and learning, media centers

4. Career guidance

- Competitive examination section

5. Improvement in Intelligence and Emotional Quotient (IQ and EQ)

- EdTech sites and Tools to improve IQ and EQ

College decided take initiatives in effective mentoring through semi-structured guidance, orientation and advice. College decided to provide innovative academic support and superior technical support to students to teaching-learning environment more comfortable and effective. Through Career guidance cell, job opportunities and other relevant information will be conveying to students. A competitive examination center will be opened for preparation of MPSC and UPSC examination. Along with intelligent quotient, emotional quotient plays important role in success of students. College will take initiative to improve the emotional quotient of students.

4. Infrastructure development

The fact is that a good college infrastructure, with renewed spaces, makes it possible for students that live in remote areas to study and, in addition, tends to improve the attendance and interest of students and teachers in learning. For this same reason, investments in college infrastructure have an essential role in solving access problems of students to the college system and to improve their performance. Quality and access to education is the major concern in rural colleges as there are fewer teachers and less infrastructure facilities. Most textbooks are in English and since people in Gadchiroli areas either speak their native language Marathi or Hindi, but not English that defeats the purpose. This results in lack of their interest in studies. Though some of the students from villages are really brilliant, as they have a wealth of practical knowledge and know how to survive even in very harsh conditions of life, difficulty in understanding their textbooks, lack of facilities and their poverty are a hurdle in their education. In these context language laboratories, well-equipped laboratories enable students to perform academic activities more effectively. Facilities like extracurricular workshops, libraries, halls, games equipment, assembly area and proper sanitation facilities are some of the infrastructure essentials. Properly planned college infrastructure is an out-and-out key factor in effective teaching and learning. In other words, the conditions of the college directly impact the performance of the students. Extra-curricular activities are also a key component in sustaining a youngster's interest at college. Therefore college will create requisite sporting facilities and avenues for cultural events, which together contribute to building a student's life skills and personality. College will try to transform college to meet the aspirational needs of the new generation students.

Infra structure development

1. Improvement in library resources

- E resource center, OPAC, Digitalization of library SOUL software
- Rare book collection
- Scientific information resource center

2. Improvement in Laboratory infrastructure

- Purchase of new Instruments
- ICT for demonstration of dissection
- Models and other available laboratory resources

3. Enhancement in software and hardware resources in Computer laboratory

- Purchase of computational softwares required for basic and applied science
- Servers and workstations to improve the computational facilities
- Establishment of Learning and management systems

College will mainly focus on improving the infrastructure of library resources, laboratory infrastructure and computer resources in the college. Library resources will be improved by digitalization of library, purchasing new books, increasing rare book collection, establishing the scientific resource center. Laboratories will be improved by purchasing new equipments ICT for demonstration of dissections and purchase of models

and other experiment resources. Computers are central part to all infrastructure developmental activities. The purchase of softwares and hardware will improve the infrastructure standard at next level.

5. Research and Innovation

Research, both basic and applied, is fundamental to the mission of the Government Science College. Government Science college wishes to establish the interdisciplinary research centre with essential core facilities and emboldens innovation and economic development through strategic partnering with various research institutes, Universities and industry. The long term goal of Government Science College is to facilitate interdisciplinary research that will conserve the tribal knowledge and provide innovative solutions to challenges of tribal area. Research that will be undertaken at the Government Science College, will primarily focused to address the contemporary issues related to tribal communities by linking the interdisciplinary knowledge to tribal knowledge. Thus, the Government Science College seeks to integrate academic rigor with technically sound and socially relevant research for tribal communities.

Research and Innovation

1. Improvement in the research environment

-Improve the participation and quality of research pursued by graduate and post graduate students

2. Training courses and immersive training

- Development of training sessions and workshops

3. Instrumentation facility

- Development of sophisticated instrumentation facility

4. Advice and consultation

- Advice and consultation services to local community

In Vidarbha region instrument facilities are not adequate and need state of art instrumentation facilities to conduct quality research to address the burning issues in the tribal areas. College wishes to establish the Instrumentation center to support research activities of the researchers of Vidarbha region by providing advice, technical assistance and access to advanced scientific equipment. This includes education and training for graduate, post graduate and researchers. Important secondary purposes are to support the research activities of other colleges in Gondwana Universities, and to assist local business ventures in solving sophisticated scientific problems. We wish to create the environment which will help local communities in a number of purposes, such as: Identification of problems, Assistance with the development of a problem solving plans, Interpretation of results and Access to equipment not available from other sources.

To achieve the goals of institutional development plan, college will require the support in form of man power and finance. The requirements of manpower for existing and new courses are depicted in Annexure I to XII. The funds required to improve the infrastructure are depicted in Annexure XIII. Annexure XIV depicts the summary of manpower and financial requirements.

Annexure I

Under Graduate workload as per Staffing Pattern According to Gondwana University Gadchiroli, Direction 2017, Faculty of Science direction governing the examination leading to the degree of Bachelor of Science –semester pattern with choice based credit system (CBCS) under graduate courses (B. Sc. I, II and III) (As per student strength of 25 September 2022)

Sr. No	Groups	Subject	Sections BSc I/II/III	Sanctioned Student Strength	Enrolled Student Strength	B.Sc. Workload (Period)				Work load	
						Theory	Practical	Tutorial	Total	In Period	In Hrs
1	2	3	4	5	6	6	7	8	9	10	11
1	PCM/PMCom	Physics	3	360	228	18	84	28	130	130	104
2	PCM/ CBZ	Chemistry	6	540	425	24	168	0	192	192	153.6
3	PCM/PMCom	Mathematics	3	360	228	24	0	48	72	72	57.6
4	PMCom	Computer Science	3	180	90	21	72	24	117	117	93.6
5	CBZ	Zoology	3	360	287	21	124	0	145	145	116
6	CBZ	Botany	3	360	287	21	124	0	145	145	116
7	CBZ, PCM, PMCom	English	1	240	210	10	00	12	22	22	17.6
8	CBZ, PCM, PMCom	Marathi	1	240	210	10	00	12	22	22	17.6

PCM= Physics Chemistry Mathematics

PMCOM= Physics Mathematics Computer Science

CBZ= Chemistry Botany Zoology

Annexure II

Post graduate workload as per Staffing Pattern As per 30.06.2010 and 15.2.2011 Pyramidal Structure of Teaching staff 1:2:4 and Gondwana University Gadchiroli, faculty of science direction 2017 (Master of Science) -semester pattern with choice based credit system (CBCS) post graduate courses (M. Sc. I and II) (As per student strength of 25 September 2022)

Sr. No	Subject	Academic Years	Student Strength	Batches	M.Sc. I Workload (Hrs)				M.Sc. II Workload (Hrs)				Total (In Hrs)			
					Theory	Pract.	Seminar	Total	Theory	Pract.	Tuto.	Total	Theory	Pract.	Tuto.	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Botany	2	44	4	16	32	02	50	16	32	02	50	32	64	04	100
2	Chemistry	2	44	4	16	36	02	54	16	36	02	54	32	72	04	108
3	Zoology	2	44	4	16	32	02	50	16	32	02	50	32	64	04	100

Annexure III

Workload and staffing pattern for the teaching posts in Government Science College, Gadchiroli
 Gondwana University Gadchiroli, faculty of science direction 2017 and direction no. 106 of 2012 and direction no. 112 of 2012
 (As per student strength of 25 September 2022)

Sr. No.	Subject	Workload	Workload	Total Workload	Pyramidal Structure of Teaching staff		
		UG	PG	UG+PG	Professor	Associate Professor	Assistant Professor
		(Hrs)	(Hrs)	(Hrs)	14 Hrs each	16 Hrs each	18 Hrs each
1	2	3	4	5	6	7	8
1	Physics	104	0	104	0	0	06
2	Chemistry	153.6	108	261.6	1	2	11
3	Mathematics	57.6	0	57.6	0	0	03
4	Zoology	116	100	226	1	2	09
5	Botany	116	100	226	1	2	09
8	Computer Science	93.6	0	93.6	0	0	05
9	English	17.6	0	17.6	0	0	01
10	Marathi	17.6	0	17.6	0	0	01

Annexure IV

Workload and staffing pattern for the non-teaching posts in Government Science College, Gadchiroli
Gondwana University Gadchiroli, faculty of science direction 2017 and direction no. 106 of 2012 and direction no. 112 of 2012

Sr. No	Subject	UG			Laboratory Assistant (LAS) Laboratory Attendant (LA) Required (UG)		PG			Laboratory Assistant (LAS) Laboratory Attendant (LA) Required (PG)		Total	
		BSc. Section B.Sc. I/II/III	Student Strength	Batches			M. Sc. Section MSc. I/II	Student Strength	Batches			LA+LAS	
					LAS	LA				LAS	LA	LAS	LA
1	2	3	4	5	6	7	8	9	10	11	11	12	13
1	Physics	3	360	23	05	15	2	44	4	0	06	05	21
2	Chemistry	6	540	34			2	44	4				
3	Mathematics	3	360	24			2	44	4				
4	Computer Science	3	180	11			2	44	4				
6	Zoology	3	360	23			2	44	4				
7	Botany	3	360	23			2	44	4				

Annexure V

GroupWise Distribution of Posts for College Non-Teaching Staff Office Staff
According to Govt. Resolution No;NGC-2299/(4795)/Vishi - 4 Date 26 August 1999

Sr. No.	Name of the Post	UG + PG			
		Total No. of Students	Group	No. of Posts	Total No. Post
1	2	3	4	5	6
1	Superintendent	657	C	1	1
2	Head Clerk		C	1	1
3	Senior Clerk		C	2	2
4	Junior Clerk		C	3	3
5	Peon		D	4	4
Total		657		11	11

Annexure VI

GroupWise Distribution of Post for College Library
According to Govt. Resolution No;NGC-2299/(4795)/Vishi - 4 Date 26 August 1999

Library Staff

Sr. No	Name of the Post	Total No. of students	Group	No. of Posts	Total No. Posts
1	2	3	4	5	6
1	Librarian	647	A	1	1
2	Library Attendant		C	3	3
3	Library Junior Clerk		C	1	1
Total		647		5	5

Annexure VII: Funds requirement for Infrastructure development for next five years

	Details	Number of units	Funds needed 2022-2027 (in Lakhs)	Remark
Creation of new facilities	New Study Centers	2	20	1.Competitive examination section [10 lakhs] Competitive examination section equipped with reading benches and other modular furniture will be created for students. 2. Media center with video and audio recording facility [10 lakhs] required for e-content development for MOOC courses and broadcasting of e-content on internet
	Auditorium		0	
	Administrative Buildings		0	
	Laboratory Building	1	700	1.Instrumentation facility center [700 Lakhs] Laboratory Building with Seminar Hall Ground + 2 Floors 1. Ground Floor Seminar Hall 2. Laboratory with faculty rooms 3. Laboratory with faculty room
	Computer Centre	1	30	1. Computer centre with computation software facility [30 lakhs] Now a days research in any subject requires the support of computational analysis. For chemistry, Physics and Biology few softwares such as Sigma Plot, Matlab, Schrodinger is essential to carry out the computation work. Computer work station with softwares is essential for computational analysis.
	Classrooms (including technologically enabled classrooms)	0	0	

	Common rooms for students	1	10	1. Common rooms with basic facilities [10 lakhs] Sanitary napkin dispenser machine and few other accessories for girl's common rooms in hostel and college. Coffee/ tea vending machines are required for college, reading rooms, hostels.
	Canteen/Cafeteria		0	
	Others (Botanical Garden, Poly House and sports grounds)	3	240	1. Botanical Garden[25 lakhs] The tribal knowledge of medicine is very effective against the various diseases. Medicinal plants from various parts of Gadchiroli will be collected and reared in botanical garden. It will help in conserving the tribal medicinal knowledge. 2. Poly house [15 lakhs] Few plants requires the special conditions for rearing. Rearing of rare plants like orchids requires the special conditions. Green/poly house facility will help in conserving the rare plant species of plants such as orchids. 3. Sports facilities [200 lakhs] Sports facilities are essential to encourage the participation of students in various sports events. The construction of kho-kho, kabbadi, badminton court, basket ball court facilities are will enhance the participation of students in sports event.
	Hostels (Separate for boys and girls)		0	
	Toilets (Separate for boys and girls)		0	

Renovation/ Upgradation of existing facilities	New Study Centers		0	
	Auditorium	1	30	1. Audio Visual system in Auditorium [30 lakhs] Audio Visual system in auditorium are essential to conduct various cultural programs, symposium, seminars and workshops in auditorium. The audio-visual and interactive tools helps in conveying the message very effectively.
	Administrative Buildings (Furniture)		10	1. Furniture in administrative block [10 lakhs] Office furniture is required to maintain the various records and files of students, teaching and non teaching staff.
	Laboratory (Modular Furniture)		25	1. Modular Furniture in Laboratory [25 lakhs] The Botany, Zoology, Chemistry, Physics laboratories got the extra space after completion of construction work of first floor. Therefore there is urgent need of modular furniture in these departments. The modular furniture and Civil work will be carried out in these laboratories.
	Computer Centre		0	
	Library Library furniture/ structural modification and coolers		30	1. Modular furniture and structural modification [15 lakhs] is required for arrange subject wise books, periodicals and magazines. Similarly for keeping the reading hall open for 24 hours some modifications in reading hall is essential. Partitions and other structural changes are needed to be done. Gadchiroli temperature goes to 45 C in summer. Air coolers are essential to maintain the pleasant temperature in reading room. Similarly furniture will be required in Computational computer laboratory.

	Classrooms (including technologically enabled classrooms)	5	30	1. Technologically enabled classroom [30 lakhs] Smart classrooms foster the opportunities for teaching and learning and helps in teaching the concepts very effectively. Internet connection and smart classroom is essential to teach these new advanced courses effectively. Therefore smart classroom along with internet connection is essential.
	Common rooms for students		0	
	Canteen/Cafeteria		0	
	Others (CCTV camera Hostels Herbarium repository)		35	1. Hebarium repository [10 lakh] Botany department have decided to prepare the plant herbarium repository of Gadchiroli district. After creation of herbarium repository digital herbarium repository will be created. This will help in future floral studies of Gadchiroli district. 2. CCTV camera in hostels and college premises [25 lakhs] CCTV camera is essential for newly built Boys and Girls hostel. It will enhance the security as well as vigilance in hostels (two girls hostel, one boys hostel and campus premises).
	Hostels (Separate for boys and girls)		0	
	Toilets (Separate for boys and girls)		0	

New equipment/facilities	Laboratory equipments and ICT for biology		450	<p>1. Laboratory equipments [40 lakhs] As per revised syllabus Chemistry, Physics, Botany and Zoology departments required new equipments to conduct the practical courses. Procurement of equipments will help these departments to conduct the advanced practical. 2. Instruments for Instrumentation facility [400 Lakhs] Instruments such as Microscopes, LC/MS, GC/MS, CHN analyser etc will be required 3. Softwares/ teaching ICT tools for Zoology practical [10 lakhs] Dissections and few other practical are now banned and use of ICT tools are suggested by UGC. Now a days various ICT tools are available which demonstrates the dissections and other Biology practical.</p>
	Computers	30	20	<p>1. Computer hub for students [10 lakhs] Computer hub with e resources will be created for benefit of students which will be remain opened for 24 hours for students. 2. Computers, printers and scanners in students section [10 lakhs] Computers are required in students section to fill up the online forms of admission, examination, scholarships etc. Similarly all administrative work such as GEM, Sevarth etc are now online. Therefore office requires the computers with scanner, printers to carry out the various administrative work.</p>
	Books/Journals		75	<p>1. Books Journals for curricular courses [30 lakhs] New books and Journals are essential for post graduate and under graduate courses for teaching and learning advanced courses. 2. Books for competitive examination section [10 lakhs] Competitive examination section will be created</p>

				for students. 3. Books for self development section [10 lakhs] Books related to various aspects of self development are essential. 4. Subscription of journals [25 lakhs] subscription of hard copy and online journals is essential. 5 lakhs per year (subscription of Springer, Elsevier Journals).
	E-resources		20	1. E resources for curricular aspects [10 lakhs] E resources will enhance the subject knowledge of post graduate and under graduate students. 2. E resources for education and self development [10 Lakhs] E resources for Education, soft skill and self development are essential.
	Physical Education		40	1. Encouragement to participation of students in sports activities [20 lakhs] To enhance the sports culture, sports equipments such as bats, rackets, table tennis tables, nets are essential. 2. Sports Equipments for Physical Education department [20 lakhs] Gym Equipments, medical devices and instruments are essential for enhancing the physical education facilities.

	Others (Photo copy machines, printers, Air conditioners, Bulk SMS system' Library digitalization)	20	115	<p>1. Examination section computerization [10 lakhs] Gondwana university conducts the examination using the Online question paper delivery system. The examination section required the laser printer, photocopy machines and other computer accessories such as web cameras for conducting the examination. 2. Air conditioners for research laboratories [15 Lakhs] Air conditioners are essential for research Laboratories as various instruments works better at 25°C. 3. Photocopy machine in library [5 Lakhs] Photocopy machine in library will help students in photo copying various study material. 4. Communication with students/ parents/non teaching /teaching staff [10 lakhs] Bulk SMS system is essential to convey the message to students, parents, teaching, non teaching staff and alumni. Interactive Notice boards are essential to display various notice related to admission, scholarships, examination forms. Similarly Information Management system are essential for e governance in college 5. Library digitalization [05 lakhs] Digitalization of library (bar code mapping and entries in SOUL software) will improve process of issuing the books to students 6. Campus, up gradation and beatification [75 lakhs] Campus beautification and green campus is essential. Ground leveling, Vermicompost plants, waste water treatment plants, Solar energy, paver blocks and roads are required in college campus.</p>
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Consumables and chemicals for research and post graduate teaching			120	1.Chemicals and Consumables: Faculty, students and research students will involved in active research and for that purpose chemicals, consumables, glassware, plasticware, training, seminars, workshops, contingency and travel allowance will required. (24 Lakhs per year)
Total in Rs. In lakhs			2000	