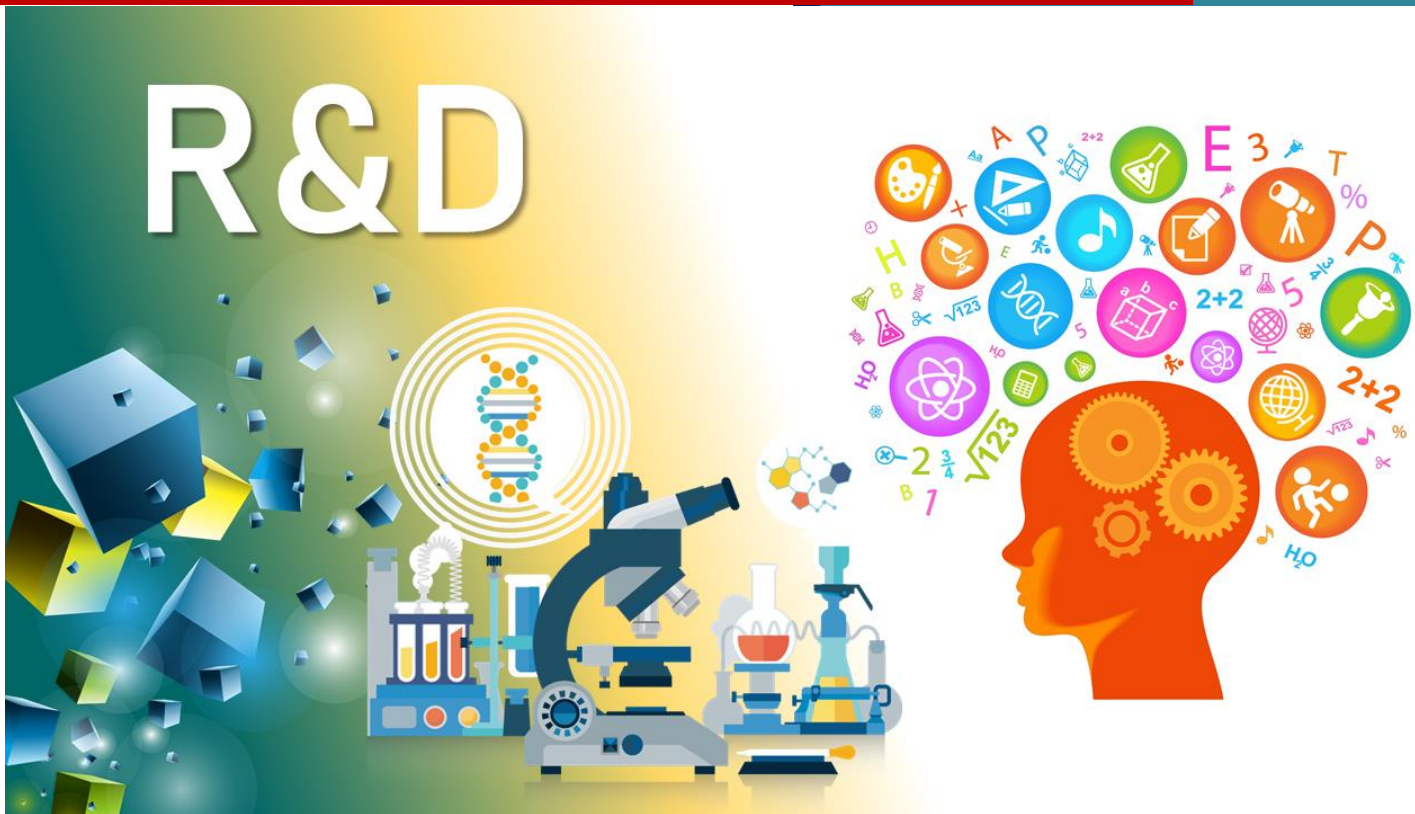# GALGOTIAS UNIVERSITY

Summary of Research & Innovation

R&D

PURPOSE: This Mandate sets the framework for the development and implementation of research and innovation activities at the **Galgotias University and** aims to nurture research culture and enhance innovation quotient in the University by promoting Research and development in the frontier areas of Science, Engineering and Humanities. It also encourages the Undergraduate, Postgraduate and Doctoral candidates and faculties to undertake the research in newly emerging frontier areas of Engineering and Non-Engineering including multidisciplinary fields. This will enhance the general research capability of budding researchers and stakeholders by way of participating in indexed Conferences, Seminars, Workshops, Project Competition, etc. and shall results into tangible Research outcomes.

The mandate shall foster conducive milieu for interdisciplinary research practices generating & consequential and meaningful outcomes for the Nation in general and the region in particular. The mandate shall promote creation of a favorable environment to create centers of excellences for Research and Development and for dissemination of knowledge and its relevant application Regionally, Nationally and Globally. This shall also lead to an improved Innovation and Research quotient of Faculty and Students through Inter/Multi/Trans disciplinary Research Groups ultimately shall leads to establish Internationally Research driven University.

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Chapter 1: Research

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1.1. Introduction:

This mandate is developed to facilitate the Deans and Faculty to carry out full-fledged research activity for the university through students/research scholars/self so as to meet the mentioned research targets. **Output of Research based on Ranking and accreditation agencies**

The output of research shall be as follows but not limited to

- 3P's : Publications, Patents and projects (funded)
    - Quarterly Target based efforts of faculty in 3P's
    - Faculty wise publications per semester
    - Faculty wise Patents per semester
    - Faculty wise projects per semester

- Involving Students in outcome based Research and innovation
    - **Aligning academic courses like project/internships/skilling etc into outcome based work resulting in patents and publications**

- Students publications
- Students innovation awards

- No of Ph.D. produced
- No of Ph.D. faculties in the university
- No of PhD scholars registered under each faculty
- No of research fellowships per faculties
- Faculty and students research awards
- Start ups
- Product development
- MOUs
- Collaborative research with industry / International organizations
- Joint Ph.D. with industry / international researchers
- Joint consultancy
- Joint grants with institutions of national and international research
- Increase in citations of WoS and Scopus
- Increase of H index and i10 ratio of each faculty
- Grants
- Faculty as resource person
- Research and Innovation Awards for University

The document is developed for defining the processes, targets and opportunities for students, faculties and research scholars.

1.2. Code of conduct:

- The targets shall be set for each year for the university and hence subsequently set for the schools and every individual faculty. The portal/platform shall be developed to monitor the research progress of each and every faculty in the campus and if improvements are not found within ending respective quarters then warning letters shall be issued. Receiving such three letters the staff may be subject to administrative action
- The annual targets shall be decided for each school which shall be further divided into semester wise and which shall be monitored every month.
- Faculty will be categorized into Research/Teaching faculty taking into account their three-year research contribution and the targets achieved.
- Each professor of the university shall publish at least three SCI/SCOPUS Indexed journal papers per semester.
- Each Associate Professor/ assistant Professor of the university shall publish at least two SCI/SCOPUS Indexed journal papers per semester.
- In addition to the above the faculty shall publish 3 number of short papers/conference papers/editorials/ monograms/book chapters which are indexed in Scopus /WoS
- If faculty shall publish any paper/file any patent / apply for any award/apply for any research fund /consultancy without any GU affiliation or without appropriate channel

of the university while in service shall be treated as violation of code of conduct and liable for administrative action.

- If its joint paper along with other faculty of the GU then the weightage shall be 0.5 and if three faculties shall write the publication then weightage shall be either alone or with one more researcher. Publication with four faculties is not acceptable.
- All faculties to ensure that if they are guiding UG students, then 100% UG student's projects under each faculty should lead to Publications / Patent / Product as per **Appendix 1.1.**
- All faculties should ensure that if they are guiding PG students, then 100% PG student's projects shall lead to one publications / case studies as an outcome of their PG project.
- Every Professor must bring one consultancy worth 1 lakh per year
- Every Professor and Associate Professor and Dean and Associate Dean of the school shall have active Consultancy Projects worth a total fund amount of Rs.10 Lakhs per school per semester etc. (for a school wherein total faculties are under 25 and for higher faculty members it shall be 30 Lacs)
- All faculties of the department must be involved in at least one consultancy project/ Corporate training
- Every school shall establish at least one Center of Excellence which is of interdisciplinary nature involving minimum 2 Industries and 1 International organization and few Ph.D. students and PG and UG students leading to minimum 4 publications per year one start-up and 2 consultancy assignments and one grant.
- Each Ph.D. supervisor along with his/her Ph.D. student must apply for funding every year
- Every faculty not having a Ph.D. degree shall identify the area and supervisor within 3 months of release of this document and register within 3 months of release of this mandate for Ph.D. either in GU or outside GU.
- Every faculty having Ph.D. degree shall guide at least four Ph.D. scholars and 50% must be of GU.
- Every Professor and Associate professor shall organize two STTP/FDP of minimum along 2 weeks per year with external Government/ Non-Government funding and create one lakh revenue as per the format shown in **Appendix 1.7.**
- Every Faculty must be a resource person for a minimum of two STTP/ FDP/ MDP preferably outside GU.
- Minimum 10 International researchers should be involved in active research for schools having more than 1000 students and all engineering schools.
- Four journals (Medical / Business/ Legal / Engineering Sciences) should be started having two/three schools taking collective lead. Every issue shall not have more than 10 papers and out of which maximum 5 papers from GU and 2 must be from outside India.
- Efforts to be taken to make GU journals Scopus indexed.
- Every professor and Associate Professor and all doctorate faculties of GU must apply for funding not less than 10 lacs every year.
- One active funding project for each divisional research group exceeding a total fund amount of Rs. 50 Lakhs per school per semester,

- New research programs like Integrated Ph.D. degree and Post-Doc fellowship needs to be introduced immediately.
- All teaching faculty should complete/ register Ph.D by 2021.
- Every faculty having Ph.D. degree shall guide at least one Ph.D. scholar.
- Every school shall identify minimum 5 experts from international and 5 at National level not below professor and 5 industries CTO/CEO/MD and having experience 10 years in the same field with same caliber as expert bank which shall be approved by UCRD and whose expertise shall be availed for Ph.D./ setting up guidelines, project evaluation/ PG and Ph.D. examination, mentoring for Center of Excellence
- Dean of the school shall be answerable to partial or full non-achievement of targets set for a semester and year over all schools.
- Faculty shall be answerable to partial or full non-achievement of targets of refereed peer reviewed journal publications patents, Funded projects, conference paper publications, and book chapters/ books.
- The eligible supervisors shall be answerable to partial or full non-achievement of targets set for Ph.D. Guidance completion per year and on-going Ph.D. guidance.
- Major research in the university shall be undertaken by the divisional research as defined in the lateral part of the document.
- Research funds from funding agencies shall be utilized for the purpose for which it is being released in the stipulated time.

- Each research grant fund shall be maintained in a separate account until the completion of the project by the Dean/SRC/URC.
   - One copy of applied fund must be submitted to UCRD and VC office
   - Each Ph.D. supervisor along with his/her Ph.D. student must apply for funding every year
   - The URC shall strictly monitor the activities and progress of the funded project. Any malpractice or unsatisfactory activities shall be dealt seriously with by URC.

- The Dean-Research/URC shall publish the policy for academic integrity and the code of academic integrity shall be available on university website
- No paper in the University shall be published until checked for plagiarism and after having 90% unique contents only it shall be sent for publication.
- Every project report at all level (UG / PG / Ph.D.), every internship report, every book, book chapter, patent draft, every assignment, presentation, research papers, monographs, design must be checked through i-authenticate
- Every school shall establish at least one Center of Excellence which is of interdisciplinary nature.
   - Each Centre of Excellence of the university must apply for funding and shall result in spiraling out one or more UG, PG and Ph.Ds.
   - It must involve minimum 2 industries and 1 international organization and few Ph.D. students and PG and UG students leading to minimum 4 publications per year one starts up and 2 consultancy assignments and one grant.

- The Dean/SRC shall sign at least five MoU for collaborative activities for research and faculty exchange for teaching and research, with other elite institutions within the country or abroad and execute the required activities as according to the MoU, every semester as per the format shown in **Appendix 1.8.**
- Research Methodology workshop must be conducted for every undergraduate program of minimum of 3 credits as per annexure A
  - It shall include patent drafting, research paper drafting and literature review as key components of a minimum of 40 hours.
  - The ETE shall be in terms of research proposal or research paper.
  - Target should be for projects and exams should reflect the Scopus papers, book chapters and patents per year as papers are output and for the output to be there shall be a process which is in terms of project.
  - Every year there shall be an internship/ project. Internships through NGO may lead to good projects and data which can be compiled in terms of paper.

- Dean shall ensure that all faculty members are members of one or more Professional bodies of National/ International repute.
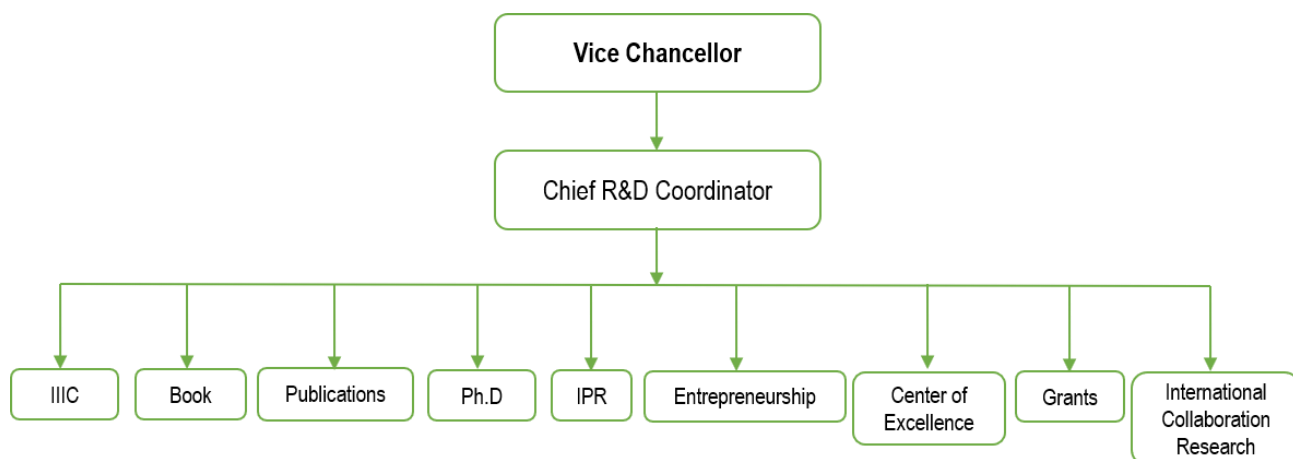
1.3. University Center for Research and Development

UCRD shall frame the university research calendar for accomplishing research goals (long term and short-term goals). At the university level, University Center Research development (UCRD) shall be established which comprises VC as Chair, Dean PG & Ph.D., Chief research coordinator, Dean research experts from various schools, selected on an annual basis as per following composition

The Research advisory board comprising of experts from international and national organizations shall provide inputs on world class practices and aligning roadmap for accomplishing the Vision of the university

The Committee

1. Vice Chancellor (*Ex-officio* and Chairman)
2. Pro-Vice Chancellor (*Ex-officio*)
3. UCRD Team as per organization chart as in 1.1 (*Ex-officio*)
4. Dean PG/ Ph.D. program- (*Ex-officio*)
5. Dean Academics (*Ex-officio*)
6. Deans of Schools (Chairpersons of SRCs)- (*Ex-officio*)
7. Two external Research Experts from reputed research labs/institutions (nominated by VC) appointed as per RAC norms of UGC
8. Registrar of the university

Figure 1: Organizational Structure of Research

Roles and Responsibilities

1. The University Center of Research and Development Team shall coordinate between various verticals under R and D of the university and schools

2. UCRD shall frame the university research calendar for accomplishing research targets. Setting up targets v/s achievements of school performance month-wise and presenting before VC and senior Management

3. Develop, monitor and review policies relating to the University's research activities, including research and research training, internationalization and international reputation, and their management

4. To establish School Research Committees (SRCs) and monitor the research activities at the levels of schools

5. To oversee research and research activities of the University via strategic policy and management decisions taken within the URC and through the activities of its School Research committees (SRCs)

6. Guide, monitor, review and endorse the activities of its Sub-committees such as School Research Committees (SRCs),

7. To Ensure appropriate interaction on research issues, as well as the dissemination of information and advice to the Academic Council

8. To set the ordinances and regulations for UG/ PG Projects and Research students in the light of UGC guidelines through Research Advisory Committee

9. Shall develop processes and activities based on advice of Research Advisory Board (RAB)

10. Search for grant and collaboration opportunities shall be shared with every faculty in the university and the Deans have to ensure that maximum number of proposals are submitted and opportunities are grabbed.

11. Ensure the availed grants are actually implemented in the university and yearly reports are filled and sent to the agencies

12. Shall ensure full funds are released and if not shall ensure reminders are sent to the agencies

13. Annual reports are available from all PI and necessary reminders/ guidelines/ instructions and letters are issued if it's not trained as per guidelines

14. Review, on an annual basis, submissions for formation and/or continuation of University Research Strengths and advise on funding allocations to, and the status of, all URC-funded research groups.

15. Publishing annual intellectual capital report by compilation of all research activities schoolwide and also at central level of all research coordinators who are working at university level

16. Provide leadership and advice on mechanisms to improve monitoring, benchmarking and reporting of the University's research performance.

17. Hold one event every fortnight as outreach activity to two events annually to facilitate the exchange and dissemination of information concerning cutting age technology or research front from international/national bank of experts not below one having 3000 plus citations for research and research training issues for the broader research community

18. Organize visits by eminent researchers to interact with the faculty and students.

19. Organize national and international conferences with the participation of eminent scientists/technologists in specialized/emerging areas.

20. Develop plans and coordinate efforts of departments of Schools, to obtain recognition for their research activities by national, international agencies such as UGC, DST, ICSSR, ICHR, ICPR etc.

21. Ensure code of conduct is strictly followed and schools and students are given a helping hand.

22. R&D fund allocation and creation of R & D facilities

23. R&D promotion activities for Faculty and students such as participating in International Conferences, Seminars, Workshops, etc.

24. To promote and keeping track of research publications in Scopus Indexed Conferences and Journals

25. Encouraging Research Proposal for external funding agencies by faculty and doctoral students.

26. To increase the Research MOU's of Galgotias University.

27. To conduct Publishing awareness programs continuously throughout the year to create a Research environment.

28. Encourage and ensure every school has one Center for Excellence.

29. Research Target setting for university and schools and follow-up process.

30. To provide supporting infrastructure & resources like space, facilities, Patent filing, funding, data handling & other for various research categories

31. To ensure that each faculty publishes at least one patent every year.

32. To ensure that PG/UG students publish one patent with Research Group members.

33. To provide Incentives in terms of monetary benefits, Promotions/awards and Relaxation in OD/Attendance for Faculty and students.

34. To Provide a Best Research faculty award and best outgoing Research student award during every convocation based on their research outcomes like Papers/Book chapters published and funded projects received.

35. To integrate teaching and research
36. Collaboration with publishing house for edited books and authored books publication by GU faculties

Meetings and Quorum

- The University Center for Research and Development shall meet every week once in a year the quorum for meetings shall be 2/3rd of members.
- The draft Minutes of the Committee shall be circulated to the VC and Honorable Chancellor, as soon as possible for noting and/or discussion/decision as necessary.
- *URC will be constituted once, based on the performance every two year be reconstituted.*

Authority and Accountability

The Committee may investigate any matter falling within its terms of reference, calling on whatever resources and information it considers necessary to do so under closely under Vice Chancellor

- The Committee regulates the functioning of SRCs but in consultations and under intimation of higher ups.

Performance Evaluation

The Committee shall, monthly review its own performance and its terms of reference and shall report its conclusions and recommend any changes it considers necessary to the Vice Chancellor.

1. **R&D Budget**
1.1. The School Deans should invite the budget requirements from the faculty. The faculties should analyze the annual requirements and prepare an interim budget, this can be based on
    - Previous year's budget
    - Previous year's budget utilization report
    - Expected projects
    - Planned improvement in the R&D facility
1.2. The budget heads should be defined for
    - Conferences
    - Journals
    - Technical training/Research Training
    - Specialized R&D items
    - Patent filing
    - Software
    - Honorarium for RRC / RPC members (Research recognition committee / Research promotion committee)
    - Expenditure for conducting registration / progress seminars of PG and PhD
1.3. The Budget Submission, Review, Intimation & Utilization

2. *Research Proposals (Internal proposals)*

Provide funding to the faculty and students to register for conference, journals and paper presentations, book chapter contribution, workshop, seminar, projects and external funding The proposal should be submitted in a prescribed format to School R&D coordinator and School Dean. The standard format for application is available on the website / R&D cell / Departments and the applications should only be submitted in the standard format. The following details should be present in the proposal

- Budget
- Acceptance letter
- Conference / Journal name
- Application in DST / AICTE format for conferences to be held abroad
- Topic of Study
- Impact factor of the journal
- Location of travel, if required
- Conference / Journal website details
- Communication from Journal/ Organizing committee

Copy of the paper/ presentation

R&D Norms Amendments

The R&D norms should be modified as and when required but not more than once in a year with intention to improve the quality of research

Intellectual Capital

- School wise / subject wise database of the papers/research material
- Database of publications of faculty and UG / PG students

Database of the project funded externally by AICTE / DST / Any other agency

External Collaboration

The faculties can directly approach the companies or vice versa for getting the consulting assignments from the industry**. The** MoU **should be signed by the representative of the company, faculty in-charge, Dean of the School and Vice Chancellor of the university**

1.1. The revenue generated through the project should be distributed in a way
- 50% for the University for usage of the University Facilities.
- 40% for the faculty fund

10% for the administrative staff

Preparation of R&D Brochure

The data regarding publications, Government funded projects including sponsored projects, consultancy projects; faculty as resources and details of reviewer, editor, session chair, and keynote speaker is to be maintained by the school R&D coordinator.

1.4. School Research Committee (SRC)

The Dean of each school shall be responsible for managing the research activities in collaboration with Division Chairs and School Research Committee (SRC) which comprises at most 10 members with Ph.D. with proven research accomplishments including Dean.

1.4.1. The Committee

Total number of members to be restricted to 10.

1. Dean of the School (Chairman)
2. Professor and Associate Professors (maximum of *four members* to be chosen from various domains of research areas including Ph.D coordinator of the School) to be nominated by Dean and approved by VC
3. *All members must have Ph. D. Degree*

1.4.2. Roles and Responsibilities

1. To organize and oversee the progress of research activities to take steps to enhance the research capability of the school.
    i. By motivating the faculty and research scholars towards research activities
   ii. By enabling them to understand about research opportunities and its relevance in teaching and university activities.
2. To monitor and review the research activity in ensuring ethics, benchmarking the quality of research activity and its impact to promote excellence and development of research within the school.
3. To organize advanced research training to promote interdisciplinary research and collaborate with reputed national and international research institutions and labs
4. To maintain all data related to school and update time to time in the central database every Saturday without fail
5. To submit an annual report on research activity of the school to Dean Research & UCRD
6. To initiate, review and monitor the research activities relating to the Research scholars (PG and Ph.D) of the school in its totality such as
    a) Admission and Selection process of Research students
    b) Allotment of Ph.D guides to the selected research students based on their eligibility and research area based on their presentations/interviews for the full quorum of SRC
    c) To recommend Doctoral Committee (DC) for each candidate
    d) To approve the proposed research plan of the candidate as approved by DC
    e) To schedule and convene DC meetings and preparing minutes of meetings and to circulate

f) to ensure the DC committee is monitoring progress

g) issue letters to supervisors and candidates where in there is no progress and no outcome

h) To approve the long abstract of the thesis on its completion and the final title of the thesis.

i) to recommend the panel for the candidate

j) To take necessary action required towards the recommendations of DC. and thus, play a role required for the operationalization of the Ph.D. program subject to the overall supervision and guidance of the URC and submit the reports in the prescribed format **(Annexure-2)** consisting of minutes, executive summary with highlights) to URC.

7. To initiate, review and monitor the research activities relating to the faculty members of the school in its totality such as Establishment of research clusters, units to promote both national and international funding opportunities

8. To promote interdisciplinary research through the activities to enhance relationships and working with Research Committees of other Schools within the University by organizing FDPs, Workshops, Conferences etc.

9. To undertake the activities to develop external relationships with funding agencies of both national and international, with other Universities and Research Institutions.

10. To Communicate and publish the successes and outputs of School Research activities with Dean-Research update on school website

11. Exploring the possibilities of consultancy and meeting the targets assigned by UCRD

12. ensures everyone in the school follows the code of conduct

13. Monitor progress of the Center of Excellence and make those self-relevant.

14. Encouraging faculty (Staff) to apply and work towards patents, designs and copyrights and meet the target assigned by UCRD

15. Conducting Research Methodology workshop for staff and students every student and monitor the output

16. Responsible for publications of the UG PG students and of faculties of respective school

17. Shall be responsible for academic integrity of the school and shall maintain all records of plagiarism check for all articles and projects and papers

18. R&D promotion activities for Faculty and students such as participating in conferences, seminars, workshops, etc.

19. Encouraging Research Proposal for external funding agencies by faculty and doctoral students by mobilizing call for funding amongst all and conducting workshop on writing good research proposal

20. To increase the Research MOU's of concerned schools of the University.

21. The Dean/SRC shall provide in-house research exposure to students and facilitate them to carry out research-based projects using Research Based Learning (RBL).

22. The Dean/SRC of each school shall prepare, maintain and update the list of funding agencies relevant to the school both disciplinary and interdisciplinary.

23. The Dean/SRC shall use iThenticate (Turnitin) software or similar quality software to check for plagiarism of all research publications and technical reports.

24. The Dean/SRC shall ensure that at least one corporate training program given by the school to the industry/agency every month

25. The Dean/SRC shall sign at least one MoU for collaborative activities for research and faculty exchange for teaching and research, with other elite institutions within the country or abroad and execute the required activities as according to the MoU, every semester.
26. Minimum five collaborative events with industry
27. Minimum five collaborative events with social organization
28. The Dean/SRC shall ensure that UG students and PG students are aware of the good research process of writing papers, book chapters and patents. There should be at least 1 workshop and 1 lecture conducted by the internal faculty and external experts during free hours about recent research and paper writing.
29. School shall organize every fortnight one research talk
30. The complete research profile at the end of each semester for each faculty shall be prepared and signed by the Dean of School to be submitted in the target sheet and to SRC and also to be updated from time to time on ERP as per the format given in **Appendix 1.1.**
31. Under each discipline and department, there shall be an exhaustive list of such topics or areas, which can be called a bank of research areas. It shall be utilized for the following research activities and is appreciated if the topic is chosen from this Bank:
    a. The Bank can be made available to the research scholars who may use it for their doctoral thesis.
    b. Similarly, the faculty shall also avail the Bank for identifying the subject for their research projects.
    c. Even for industry sponsored projects or for collaboration with other institutions, the Bank shall be utilized.

1.4.3.   Training for writing Good funding Research proposal and Publications

Generally, faculties are eager to conduct research, but because of the lack of expertise to write a research proposal or having insufficient research skills, they are unable to channelize their efforts effectively. Hence, in many cases, a research proposal is rejected by a funding agency. Even for publication of papers because of the lack of knowledge about how to write a paper and under which format it should be submitted, sometimes the papers are not accepted. Therefore, the University shall organize rigorous training programmes for researchers given below.

1. How to write research proposal
2. How to write research paper
3. Networking
4. Seminars/Workshops with National 7 International agencies.

1.4.4.   Research Group Formations

1. Research area identification.
    ◆ Preference
    ◆ Grouping
2. Each faculty to be part of one group.

- The Dean/SRC shall identify divisional research groups under each division and submit the entire list of divisional research groups in the school to URC at the beginning of each academic year.
    o UCRD shall be identifying the strategic research groups where each group will have a chair (see the organizational structure of GU research as shown in **Figure 1)** at the beginning of each academic year. Each strategic research group shall concentrate on a particular research area of interdisciplinary nature.
    o Faculties having the same research interest shall join the group might be interdisciplinary in nature. The research groups must be interdisciplinary and should not change frequently. Every faculty must be part of one of the research groups.
    o The projects guided by respective faculty must fall under the area of the research group he or she is attached.
    o Research group activity shall be every week in respective schools
    o Every Research group should have at least 4 members. All members of the research group collectively must publish at least 10 research papers and file 2 patents every semester

1.4.5. Collaborative Research Projects:

The University-Industry Interaction is the demand of the day. If we want to contribute to the society at large, the University has to closely work with industries and different organizations. For that, the University shall plan the following activities:

i. Industry Sponsored Research Project: An organization can sponsor a project and the experts of the institution concerned can conduct research on this project for which the financial support will come from the organization. As a result, if any patent is registered, then there shall be a sharing of income coming out of the patent among the industry, researcher and University.

This will lead to three kinds of benefit:
    a. The researcher will get exposures to the concerned area of research;
    b. The industry will get solutions to its problem; and,
    c. The researcher, University and Industry can earn money and at the end, the society ultimately will benefit.

ii. Interdisciplinary Research: The interdisciplinary research is a must nowadays. No department, institution, researcher or a scholar can address a research problem in which more than one discipline is involved and unless they get together and conduct interdisciplinary research no fruitful findings can be arrived at. Therefore,

the University has decided to have exercise in interdisciplinary research activities for which the following steps will be taken:

a. Identify the interdisciplinary area.
b. Identify the different experts from concerned disciplines who can work together.
c. Study the requirement of the infrastructure to conduct the concerned interdisciplinary research.
d. Explore possibilities to find resources for such interdisciplinary research.

1.4.6. Collaborative International Research

Collaborative international research is essential to facilitate mutual learning and expertise sharing. The University plans to have the MoUs with prominent research institutions abroad, for conducting research jointly in the areas of common interest. For this purpose, a Task Force shall be constituted that will constantly explore the possibilities of having such collaborative or joint research in terms of thrust areas, decide the modus operandi of conducting such research and attend to other relevant aspects.

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1.4.7. Meetings and Quorum

- The Research Committee shall meet four times in a year (twice per semester) or more frequently if the business requiring its attention should so dictate.
- *Mandatory four meetings per year must be planned every Saturday every month*
- The quorum for meetings shall be 2/3rd of members.
- The Committee may also invite Dean of other schools, or other person to attend any meeting(s) of the Committee, as it may from time to time consider desirable, to assist the Committee in the attainment of its objectives.
- In addition, SRC may invite two student members (one from early research career students and one from senior research career student for the meeting to discuss the agenda items that may need student inputs.
- The draft Minutes of the Research Committee shall be circulated to the UCRD and VC with action taken report of previous meeting amongst authorities of the university same day
- SRC will be reconstituted once in two years tenure shall be same as RAC

1.4.8. Authority and Accountability

- The Committee shall operate under delegated authority from the URC.
- The Committee may investigate any matter falling within its terms of reference, calling on whatever resources and information it considers necessary to do so.
- The Committee is authorized to seek any information it requires from any employee of School to enable it to discharge its responsibilities and shall have made available to it on a timely basis all information requested from any employee in a clear and well-organized manner.

1.4.9. Performance Evaluation

The Research Committee shall, review its own performance every month and its terms of reference and shall report its conclusions and recommend any changes it considers necessary to the UCRD

1.5. Funded Projects

1. Every year the Dean/SRC shall have target of submitting funding proposals worth for minimum 2 Cr every year and minimum 1 Cr every semester.
2. The Dean/SRC shall have at least one active funding project for each divisional group exceeding a total fund amount of Rs. 30 Lakhs per school per year and Rs. 20 Lakhs per year through inter-disciplinary research projects, using the format shown in Appendix 1.2
3. The Dean-Research and UCRD shall have at least one active funding project for each strategic research group exceeding a total amount of Rs. 150 Lakhs per semester, using the format shown in **Appendix 1.3.**
4. The Dean/SRC of each school shall prepare, maintain and update the list of funding agencies relevant to the school to which no funding proposals had been sent, the list of funding agencies to which funding proposals had been sent but not yet approved, and the list of funding agencies from which active funding projects are being carried out.
5. The faculty members of the group which brings a funded research grant of not less than Rs. 10 Lakhs shall be given an incentive of a lump sum of 2.5% of sanctioned fund at the beginning and 2.5% of sanctioned fund at the completion of project by GU

In addition to the above policies, UCRD Team along with VC has privilege to enhance and modify the policies and issues the order as and when required.

5.1. Consultancy Projects:

Develop and establish consultancy policy for

- The Dean/SRC shall make a list of all potential industries for consultancy and submit to the Dean-Research/URC at the beginning of academic year. All core industries of the school shall be included in the list.
- The dean of the school must visit all industries related his school in the NCR every year in the beginning of the financial year - April and explore possibilities of collaborations and consultancy / corporate turning opportunities available.

- The Chairs of the strategic research group shall list all potential industries of interdisciplinary nature for consultancy and submit to Dean-Research/URC at the beginning of the academic year.
- The Dean/SRC shall ensure that all professors and associate professors should have active consultancy projects with industries exceeding a total amount of Rs. 20 Lakhs per semester, using the format shown in **Appendix 1.4**.
- The Dean-Research/URC shall ensure that at least one active consultancy project per strategic research group is being carried out with industries exceeding a total amount of Rs. 30 Lakhs per semester, using the format shown in **Appendix 1.5.**
- The faculty member(s) having consultancy grant of not less than Rs. 2 Lakhs, shall be given an incentive of as according to the consultancy policy of GU.
- The school shall support the faculty doing consultancy by providing on-duty leave when the faculty is required to go to the industry to provide consultancy, on prior permission from Dean/SRC/URC. It is expected that the concerned faculty must submit photo and MoM of the meeting after visiting concerned industry same day and ATR within next 7 days

- Encouraging the faculty to utilize their expertise for consultancy services. The consultancy works can be categorized as:
    - Software consultancy.
    - Research based consultancy.
    - Industrial consultancy
    - Collaborative consultancy
    - Extension activities
    - Human resource development.
    - Testing
    - Any other suitable domain/area

In addition to the above policies, Head of the institution has privilege to enhance and modify the policies and issues the order as and when required.

Consultancy Norms

The College shall extend expertise of faculty and R&D facilities to the outside agencies for providing solutions. The revenue generated out of consultancy shall be distributed among the concerned faculty and the supporting staff along with the share of the college as may be approved by the GB/BOM from time to time. The tentative distribution of the revenue generated out of consultancy shall be as given below.

The University	50 %
VC/PVC/Registrar/ Dean Planning	2%
Dean/ H.O.D.	2%

School consultancy in charge/ one who brought the Consultancy	2%
Faculty	40 %
Lab Assistant	0.5 %
Accountant/ CA	0.5%
UCRD Team / SRC	3%

5.2. Establishment of IPR and Innovation cell

It is the initiative by GALGOTIAS UNIVERSITY, GREATER NOIDA in administering intellectual property rights, to encourage and assist faculty members, staff, Undergraduate, Postgraduate students, Ph.D. Research Scholars and others associated with respect to their discoveries and inventions in a manner that is equitable to all parties involved.

The University recognizes the need for and desirability of encouraging the broad utilization of the results of research by scholars and acknowledges the importance of the patent system in bringing innovative research findings to practical application. The innovative research findings often give rise to patentable inventions even though the research was conducted for the primary purpose of gaining new knowledge. The faculty members, staff, Undergraduate, Postgraduate students, Ph.D. Research Scholars and others associated can contact GALGOTIAS UNIVERSITY, GREATER NOIDA patent cell for initiating the patent filing process as per the procedure mentioned in this document for their projects/inventions, etc.

Initiatives to enhance Patent Filing Activity with GALGOTIAS UNIVERSITY, GREATER NOIDA-UP

1. **GU Innovator of the Month Award**
   a. To promote research and innovation amongst Undergraduate, Postgraduate and in general in higher education, GALGOTIAS UNIVERSITY, GREATER NOIDA-UP has constituted **"GU Innovator of the Month Award"** for students of GALGOTIAS UNIVERSITY & respective schools.
   b. Awards shall be common for UG and PG

   c. A working implementation of either a concept, a process or a product idea with potential to commercialize, idea considered for the award.

   d. The projects judged on criteria such as:
      ◆ Applications to society/National thrust area
      ◆ Utility and scope in today's context
      ◆ Commercial viability
      ◆ Innovation/improvement in existing process
      ◆ Patentability

   e. The evaluation carried out in two levels:

Ø **Level I:** School level evaluation is done by a team of expert under Dean of the concerned school. Three best projects in each area mentioned above are identified and forwarded for participation at University level. The students should clearly highlight the innovative aspects of their projects during this evaluation.

The details of projects selected at college level should be submitted to a team of experts constituted at University Level along with all the projects participated at college level along with evaluation process and judgment sheet duly signed by judges and principal.

Ø **Level II:** The team identifies the best innovative projects in each category for giving the award.

f. The award comprises of a certificate and cash prize (Rs. 2000/- at school level maximum limited to 5 every month in addition to project expenses

2. **Curricular Reforms**

Enhanced Industry Participation through involvement of Industry in following aspects was motivated:

 * Curriculum Design
   * Every BOS and Focus Group has Industry Representation.
 * Content Delivery
   * Specialized topics and units are being covered by Industry People.
   * STTP and Workshop are being jointly organized.
 * Mandatory Internships, Industry Visits and Guest Lectures
   * Part of TAE; ensuring participation of all the students.

3. **Promotion of Research and Development**

The Research and Development activities which may lead to patent filing are encouraged by providing the following:

 * Seed Money for R&D.
 * Collaborative Research.
 * Evaluation of Research by Industry People.
 * Organization of Joint Conferences with Industry
 * Many Research Scholars are working on industry-based problems with
 * STTP in collaboration with Industries
 * MoU's with many industries for training and research collaboration.

4. **Initiatives for IPR**

 * Patent Attorney for assisting patent filing activities
 * Financial and technical support for patent filing activities
 * Cash incentives for filing and grant of patent.
 * Faculty sponsored to attend Training programmes on IPR at NIIPM

- Training programmes organized for students (UG, PG students and Ph.D. Scholars) by GALGOTIAS UNIVERSITY, GREATER NOIDA through 'Research Methodology Workshops'
- Patent Attorney should be appointed by the University as per the rate contract based on management / governing body for helping university students and staff for following

  - Prior art search

  - Patent Drafting

  - Filing the patent with appropriate patent office and request for examination

  - Examination and Publication of Patents

  - Grant or Sealing of Patents with respect to oppositions

  - Routine follow-up with patent authorities

  - Informing applicants

The 100% expenditure on patents must be by university. place of invention must be university and inventor's affiliation must be university name and if found not to be considered as violation of code of conduct

5.3. Entrepreneurship Development

- Entrepreneurship Development Cell in place at Institute.
- Entrepreneurship Development' subject part of curriculum to learn the need of Entrepreneurship, Identification of Business opportunities. Mechanisms of Product selection, Technology Assistance for Entrepreneurs, Technical and Commercial aspects of SSI Unit, Preparation of Project Report, Govt. Schemes and assistance, etc.
- Subjects on Project Management, Finance Management as Open Electives by MBA Department
- Promotion of Technology based Entrepreneurship through Best Innovation Awards with Prizes.
- EDP organized in collaboration with MCED with the core objective of providing self-employment to the students.
- Organization of 'GU -idea' Business Plan Competition Event

7. **Support for**
   i. Mini, minor and Major projects are introduced.
   ii. Project selection is through active industry participation.
   iii. Multidisciplinary projects are encouraged. Industry is being involved in evaluation of Projects and Seminars of UG/PG/Ph.D. students.
   iv. All project expenses (upto Rs. 1 Lac) related to fabrication of set up, testing, etc. borne by Institute

Target: to be amongst top 5 in the year 2021 and top 3 amongst the listing in the Indian patent office annual report in the year 2022

In addition to the above policies, Head of the institution has privilege to enhance and modify the policies and issues the order as and when required

5.4. GU's Policy for funding Research

1. For reputed international conference paper presentation, a travel grant shall be approved by UCRD through the recommendation of Vice Chancellor (subject to condition of fulfilment of all documentation and conditions laid down by the UCRD)
2. 50% fees concession shall be given in the tuition fees towards Ph.D for in-house faculties who have completed one year minimum service at GU and shall be given only till the faculty is in fulltime employment
3. From the very beginning, the University encouraged young faculty to conduct research. Thus, it has opened a scheme for providing financial assistance to Minor Research Projects. According to this scheme, a faculty member prepares a Minor Research Project, which is submitted to a committee at School/University level and on the recommendations of this committee the University gives financial assistance to the faculty concerned. It is also mandatory to submit a quarterly progress report of such a Research Project to the UCRD for this purpose, every year the University earmarks financial budget for each school. Each school shall be given a seed grant of Rs. 1 Lakhs/year.

5.5. Awards & Recognition

The University would like to encourage quality research in different thrust areas. For this purpose, outstanding research contributions done by faculty, researcher, and research scholar shall be recognized. Therefore, the University shall prepare a scheme for providing incentive to researchers and scholars. The incentives are identified as under:

- Incentive in terms of money
- Incentive in terms of awards/prizes
- Incentive in terms of certificate or giving more weightage for the career advancement scheme, etc.

At the beginning of every year research awards will be distributed for all the faculties and students. The award will give after the details being collected from the Research coordinators of each school. The awards will be based on the incentive policy defined by the UCRD team approved by Vice Chancellor and endorsed by the Hon Chancellor. During December of every year, reports of publications (journals, conference, patent, chapter, and book) of faculty will be collected for the particular year and during January of next year awards will be given.

Awards & Recognition
- **Provide incentive to faculties/students to perform research-oriented work**

To increase publication and visibility in international journals and conferences

Process description	
Key Activities	**Description**
1. Awards	1.1. The special awards / incentives should be available for • PhD completed scholars • Faculties doing projects under government grants • Papers published in journals with high impact factor • PhD guidance (Students from Galgotias University) • High quality research
2. Incentives	2.1. Faculties involved in projects with external funding should be given extra incentives on the amount of grants.
	2.2. Cash rewards / incentives may be given to the faculty with publication in a journal of impact factor subject to the approval of a committee comprising of Vice Chancellor, UCRD and two visiting subject experts.
	2.3. Incentives may be given to the faculty under whom the candidates have completed PhD or to the faculties who have guided GU

	faculties for Doctoral Research (PhD) for the period of maximum three years
	2.4. For citation of papers under the affiliation of Galgotias University, an amount of INR 1000/10 citations will be awarded. The citations will be measured using Scopus; it should not include self-citations. Award amount to be shared if more than one author publishes the paper and in proportion for first author to last author. there shall not be more than 4 authors for a paper.
	2.5. Attending STTP/FDP in the category 'A' institutes of National Importance shall be provided with on duty + 100 % registration fee
	2.6. Grants received from External funding such as AICTE/ GoI etc. Faculty-5% on grants School Dean-2% on grants School Research Coordinator - 1% on grants Central Research Coordinator - 1% on grants VC/PVC - 1% on grants
	2.7. For Patent filing, Registration fees, University will take care. Filing the copyright - Registration fee (100%) Ph.D. Supervisor - On award of Ph.D. degree - Rs. 10000/-
	2.8. Convenor of conference in the university at International level indexed in Scopus - Any School - Rs. 10,000/-
	2.9. Authored Book/ Edited Book/Book Chapter with Scopus indexed - For Faculty - Rs. 5,000/ Rs. 8,000/ Rs. 2000/
	2.10. Seed money - Prior approval by management - Rs. 2.5 to 5 Lakh
	2.11. Funded Project - Category (in Lakhs) upto 10/20/30/30 and above Rs.2 5,000/ Rs. 50,000/ Rs. 70,000/ 10% of the principal amount

Key Outputs	◆ List of faculties eligible for extra incentive
	◆ Amount of money given as extra incentive ◆ Number of faculties getting felicitated

Level	Awards/Amounts	
	SCOPUS (Free)	**SCI/ SCIE** (free)

All UG courses	2000	5000
All PG Two year courses like M.Tech/ MCA / MSc / MBA	-	5000
Ph.D.	-	-
Faculty	-	5000

5.5.1. Mandate for Postgraduate Students/ PhD Scholar

i. It is mandatory to undertake dissertation work pertaining to live industrial problems/cutting edge technologies.

ii. They are required to refer minimum 5 journal/transaction papers for finalizing the topic for dissertation.

iii. Monthly progress seminars are conducted to assess the work.

iv. External experts are being called for the evaluation of the quality of the work during the year & at the time of topic selection.

v. Before submission of the final dissertation, students are required to publish one review and one implementation paper in reputed international conference/journal indexed in Scopus/ SCI.

vi. The PG students project dissertation needs to have the following before the index.
    a. Details of the conference/Journal/Special call for papers
    b. The accepted paper
    c. The acceptance letters
    d. Plagiarism Report

vii. Above supports applicable for the conference listed in annexure 1 & 2 only

viii. 100% financial assistance for developing the experimental setups for the dissertation work.

ix. Plagiarism check for thesis/research paper before submission.

5.5.2. Rules for Getting Support for UG(Student)/PG(Student)/PhD (Scholar)/Faculty Members:

i. Participating students all have to submit Application complete in all respect forwarded by departmental URC coordinators & Dean to URC cell In charge with following enclosures.
    - Leaflet of conference/seminars showing Venue, date & Registration fee.
    - Full paper/project report/concept note
    - Original Tickets
    - For —On spot competitions‖ participation report to be submitted.
    - Certificate of Participation.
    - Plagiarism report

All are encouraged to participate in hackathons, innovation contests, workshops, seminars, paper presentation and project competitions. Winner are provided with 100% financial assistance as regards registration fees and travelling expenses. Everyone needs to get prior permission to participate in the event to know the authenticity of the contest.

URC cell shall hold its meeting every week for discussions on the research proposals and further processing of those. Faculty member/Student with any innovative idea, project; can interact with members of URC cell after the meeting every week.

Center of Excellence

Aim: Establishing a Center of excellence in cutting age technologies which should have strong linkages with research organizations and minimum 2 to 5 industries. Minimum 5 undergraduate projects, 5 Post graduate projects and few Ph.Ds must work at the same and It should train and create manpower in the same domain for tomorrow. It must be interdisciplinary in nature to begin with breakout sessions and SWOC analysis should be done for the expertise available and cutting age technologies.

2.1. Introduction:

- A center of excellence using an industrial laboratory refers to a team and a shared facility that provides leadership, best practices, research, support and training for a focus area of research and development with advanced technologies provided by industry. This shall bring together faculty members from different disciplines, fast learner students and technical experts from industry and provide shared facilities. It should engage in capacity building for the enhancement of training, research and development. The CoE using industrial laboratories should focus on new and emerging technologies, should be multidisciplinary and should aim in developing technological skills of students for industry and creating entrepreneurship skills of students.
- The university must identify the professors who can take up responsibility to establish the CoE in the one of the cutting age technologies. The preference shall there shall be two In charges and both from different domains and disciplines.
- The center must be in the area of the thrust areas of the nation and needs of the industry
- The process can be initialized by professors or by School dean or as per instructions of higher up. The white paper including vision mission short goals and long term goals, industries working in the same domain, consent from the advisory board members from industries and international community not less than 6 must be there with at least 50 projects of various levels (undergraduate / postgraduate / Ph.D).

2.2. Salient Features of a Center of Excellence:

- The Centre of Excellence (CoE) is expected to be a collaborative activity between a team of high-quality researchers in the institution and researchers or research-users in several companies or organizations. In cases where the nature of research is related to production or improvement of public goods, collaboration may include appropriate public agencies.
- The Centre should focus on new and emerging technologies, multidisciplinary and translational research relevant to national development goals. Alternatively, The CoE shall promote key areas identified under the CoE guideline such as
    - Big Data,
    - Biomedical engineering/healthcare
    - Cloud Computing,
    - Internet of Things (IoT),
    - Machine Learning, Artificial Intelligence,
    - Cyber Security,
    - Clean-Tech,
    - Edu-Tech,
    - Agri-Tech,
    - Healthcare
    - Additive manufacturing
    - drone technologies
    - ARVR
    - Smart Grid
    - Satellite communications
    - Design
    - Robotics
    - smart Structures
    - energy, water, clean environment, smart materials
    - and other areas of social or national importance.

2.3. Expected Outcomes

The CoE are expected outcomes as mentioned below.

- Trained manpower as per the requirements of the industry
- At least 10 students placed in first out of those who are doing projects in the associated industries which are having tie up with CoE
- five active funding projects and five consultancies in a year
- Publications in reputed journals and conferences, patents, and intellectual property rights (IPR) with at least 10 reviewed peer journals, two patents in a year and one IPR in two years.
- Two entrepreneurs from CoE every year
- 10 Internships of 6 months and 50 internships of one month in a year
- Guide 5 UG projects every year
- Guide 5 PG projects

- Guide 2 PhD with industry associate
- organise one conference per year in the area
- sign 5 MOu with the industries working in the same domain
- organise summit minimum one in each semester
- 100 staff to be trained for 40 hours
- 5 consultancy assignments

Innovative projects

Goal: At least two innovative projects must be undertaken and completed by students in each semester for each program and a students' innovation cell must be established

4.1. Introduction:
- This mandate enforces that each student should undertake two innovative projects in each semester and a students' innovation cell should be established in the university.
- The process mentions the steps involved in making the students to take two innovative projects over a semester and an evaluation to be carried out at the end of semester.
- The process also specifies the organization and activities of innovation cell at the university level.

4.2. Approval of Projects:
- The Dean/ Head /DC shall inform the students to submit the two innovative projects of the third-year students and two design projects of the first year and second year students, three weeks before the start of each semester.
- Maximum 3 students shall be allowed to form a team for doing projects.
- The format to be used for project approval should be as shown in **Appendix 5.1.**

4.3. Innovation Cell
- An innovation cell shall be established by the experts from the school.
- The organizational structure of innovation cell shall have an Innovation Cell Head and Division Heads similar to the center of excellence using industrial lab set up specified in mandate # 8. The division heads shall be experts from the schools.
- The Dean/PC/DC shall suggest and organize the training programs and workshops conducted by industry and well-established academia for students four weeks before the start of the semester in the innovation cell.
- The Innovation cell shall also provide hardware and software tools not available in the schools to students for doing projects. Additional computers and related equipments as necessary for students shall be procured and kept in innovation cell by the innovation cell Head complementing what are available in the university elsewhere.
- The completed project reports and demonstrated projects shall be kept in innovation cell for future developments.

Chapter 5: Development Activities

5.1. Introduction:

Each school must execute development activity at last one in each type of Product Development, Research Laboratories, Instructional Materials, Working Models, Charts and Monograms in each semester to make this achievement possible, each faculty in the school must carry out at least one development works of any type of development works in each semester.

5.2. Types of development activities:

5.2.1. Product Development

Product development is all about designing and developing a product to cater a service to customers which provides new benefits. It may be enhancement of an existing product through modification or entirely a new product. Such as new home appliances, software module, other end products.

5.2.2. Research Laboratory

Establish a new research laboratory or enhance the existing laboratory making it research supportive by enhancing the resources. The lab is utilized for research activities.

5.2.3. Instructional Materials

Materials those are used by faculty members in teaching-learning and given to students for further learning to meet certain objectives of topics and bring about the desired outcome of study. The materials must more exciting, interesting and interactive. They are tools used in instructional activities, which include active learning and assessment in Moodle.

Prints	**Textbooks, pamphlets, handouts, study guides, manuals**
Audio	cassettes, microphone
Visuals	Charts, real objects, photographs, transparencies
Audiovisuals	Slides, tapes, films, filmstrips, television, video, multimedia
Electronic Interactive	Computers, graphing calculators, tablets
	Working Models, Charts, Monographs

Anti-Plagiarism Policy of Galgotias University

The Galgotias University is based in Greater Noida (NCR New Delhi, India), has an enrolment of over 20,000 students across more than 100 Undergraduate and Post Graduate program, is devoted to excellence in teaching, research and innovation, and to develop leaders who'll make a difference to the world.

Plagiarism, the term defines as *"stealing and publication of another author's "language, thoughts, ideas, or expressions" and the representation of them as one's own original work"*.

At Galgotias University several policies and procedures had been defined to carryout for good research. It is very much necessary and mandatory that all those who involved with research activities at University should be aware of university plagiarism guidelines and policies.

At University any person who involved with plagiarism will be dealt seriously and referred to the institution disciplinary committee for further necessary action.

Confidential and integrity are the two prime factors that define the trustworthiness among the researchers throughout the globe.

In Galgotias University research group which includes students in under graduate, students in post graduate, Ph.D research scholar, faculty (both technical & non-technical) and staff to ensure that their activities are defined by highest integrity, and do not damage the university reputation and fame.

All the Galgotian involved in research, during their admission/appointment shall sign a research declaration which defines the commitment to uphold the highest standard of research integrity.

1. Honest has to maintain in all aspects of research.
2. Accountability on all forms of research they carry out
3. **Research Publication**
    b. Use proper citation and give proper reference.
    c. Similarity index has to be taken priority before any submission of documents (both offline and online)
    d. The communicating/corresponding author must take the concern of other authors before submission elsewhere.
4. **Plagiarism Policy**
    a. Similarity index of any document between 0 - 10 % is considered as good
    b. Similarity index of any document between 11 - 20 % is considered as moderate.
    c. Similarity index of any document more than 21 % is considered as plagiarized and it is recommended for not submission anywhere.

5. **Conflict of interest**
    All the galgotian should make sure that at any point of time there should not arise any conflict of interest on any aspect of research activity.