

## **CRITERION-I**

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### **CURRICULAR ASPECTS**

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# CURRICULAR ASPECTS

## 1.1 CURRICULUM DESIGN AND DEVELOPMENT

### 1.1.1 How is the institutional vision and mission reflected in the academic programmes of the university?

The broad vision of the University is to enhance the well-being of the people by Educating, Creating Knowledge and Serving the Society by putting the knowledge to work with excellence. The University also aims to advance the professional competence of youth and inculcate in them the urge to recognize challenges as opportunities.

Towards the above vision, the mission of the University has been to lead the nation in research and education in order to benefit the society on a national and a global scale. The University strives to create knowledge, to open the minds of students to that knowledge, and to enable students to take best advantage of their educational opportunities. It embodies the spirit of excellence in teaching and research. Value creation through economic, social, and environmental development targeted to an increasingly global and multicultural world.

Various programmes, which clearly reflect the above vision and its allied mission of the university are given below:

1. JU offers 49 PG programs on campus in almost all the basic and applied disciplines under the Faculties of Arts, Social Science, Education, Physical Sciences, Life Sciences, Commerce and Management, Engineering, Law, Technology and Physical Education. In addition, other programmes in the Faculties of Medicine, Music, and Home Science etc. are offered in affiliated colleges and institutes.
2. Although Choice Based Credit System (CBCS) is under consideration, students have option to choose from various electives in a subject to their own interest.
3. Extramural lectures are organised by eminent faculty including specialist from abroad for special training in a particular area to keep pace with current scenario.
4. Students are encouraged to join research projects of various faculty to pursue their research career.
5. Faculty members enhance their competence and update their knowledge by organising and participating in conferences, symposia, workshops and undertaking research and consultancy projects.
6. Curriculum is revised on regular basis based on inputs from academic committee and various stakeholders.

### 1.1.2 Does the university follow a systematic process in the design and development of the curriculum? If yes, give details of the process (need assessment, feedback, etc.).

Yes, Jiwaji University follows a systematic multi-stages process in the design, development and implementation of the curriculum for the University Teaching Departments (UTDs) and affiliated colleges.

**Stage-1:** The individual departmental Staff councils propose or suggest structures of the programmes, details of courses, infrastructure and facility based on Model curricula of National

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academic agencies such as UGC, DBT etc., and inputs from other Universities, feedback from alumni, students and industry to the Boards of Studies of respective subjects of the University.

**Stage-2:** The Board of Studies (BoS) comprising of faculty from teaching department concerned and University affiliated colleges, two external experts from other University/Institutes and one student member reviews the programme structure and course content proposed by the department and makes suitable suggestions and recommends the same to the Faculty of the concerned subject.

**Stage 3:** The Faculty consisting of Dean, Chairman of Board of Studies (BoS), of different subjects of that faculty, external experts nominated by the Vice Chancellor, deliberate on the recommendations of Board of Studies of concerned subject. If any amendment is needed, the same is referred back to BoS or else the curriculum is forwarded to Academic Council for due consideration.

**Stage-4:** The Academic Council after reviewing the programmes recommended by the various Faculties to the general standard of the programme, its suitability to the needs of the department and requirement of the society and industry, approves the course content for implementation from the subsequent academic year.

New academic programmes are instituted after approval of the different academic statutory bodies like Planning & Evaluation Board, Board of Studies, Faculty, Academic Council, Executive Council and finally by the Coordination Committee. Further, every existing programme goes through revision on annual basis based on the feedback from academic committee, students and employers.

The University also considers latest research and technologies in the relevant field of studies in revision of the existing/new courses.

### **1.1.3 How are the following aspects ensured through curriculum design and development?**

#### **Employability**

Apart from the regular courses, the University has been running several job-oriented courses keeping in view of the employability opportunity in various industries, R & D laboratories and academic research institutes. Most of the students in these courses have industrial training as part of their courses. Further, most of the programmes offered are designed keeping in view of the emerging fields and needs of the employment opportunity. Industrial representatives in curriculum designing bodies' is under active consideration of the University.

A large number of graduates and Ph.D. students are employed and doing research in premier National Institutes *viz.* BARC, DRDO, AIIMS, NBRC, CCMB, CSIR laboratories and in foreign laboratories as well. Students are placed in various industries/firms soon after completion of their Post-graduation in professional courses. [Please see Alumni list in Evaluative report of the various departments]

#### **Innovation**

The University is running various innovative programs such as MICA, CSM, Neuroscience, Molecular & Human Genetics, Hospital Administration, and several such courses (Cosmetic Science & Technology, Security Management, Nanoscience & Technology) are in pipeline.

Courses are designed in view of innovation that are inter-disciplinary, given problems to the

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students as assignments, scope for flexibility. By conducting tutorials, projects, field visits etc. students adapt themselves in participatory approach and enhance creative learning.

## **Research**

Research interest among students is inculcated by short term projects, dissertation/thesis work as a part of the curriculum. Students are encouraged to take up research projects in National laboratories and Industrial R &Ds in order to have them exposed to advanced research set ups which may enthuse them to take up research.

The University organizes 'Young Scientist meet' in every academic year and encourages both Postgraduate as well as Ph.D. students to take active participation. Also, prizes are given to first three oral presentations and first three poster presentations. Further, the students are encouraged to attend National conferences outside and Inside Jiwaji University. They are encouraged to attend expert lectures given by eminent scientists of National and International repute, to participate various conferences/seminars and academic competitions organised by the University. Research methodology and literature survey papers introduced recently as pre-Ph.D. course work motivate them to undertake research assignments. The state-of-the-art instruments facility and laboratory facility in science departments besides availability of INFLIBNET services provide further support to students in undertaking research activity.

### **1.1.4 To what extent does the university use the guidelines of the regulatory bodies for developing and/or restructuring the curricula? Has the university been instrumental in leading any curricular reform which has created a national impact?**

The University uses the guidelines of the regulatory bodies such as UGC, AICTE, NCTE, DBT, MCI, BCI, PCI, and DEC for developing and/or restructuring the model curricula *in- Toto* with some modifications as per local requirements.

The University is active in undertaking curricular reforms by introducing several new programmes. The M.Sc. course in Instrumentation and Commercial Methods of Industrial Analysis has been designed to generate and channelize potential of manpower especially for quality control and R & D division of chemical industries. A two year MBA course in Chemicals, Sales & Marketing Management opened first time with a vision for developing scientifically trained marketing management professional for Pharmaceuticals and Fine Chemical Industries. The M.Sc. Neuroscience programme was initiated in 2001 with DBT-HRD support. The UGC innovative courses in Environmental Chemistry and in Remote Sensing and Geographic Information System were started in 2002-03. These courses have created national impact.

In 2003-04, the University has started number of new courses such as Biomedical Technology, Molecular and Human Genetics, e-Commerce, Food Technology, Medicinal Plants and Herbal Resource Management, Journalism and Mass Communication. The School of Studies in Languages is imparting teaching for various courses leading to degree, diploma and certificate in Hindi, English, Sanskrit, French and German. In 2010-11, the University has started three new programmes viz. MBA Hospital Administration, MBA Heritage Tourism Management and M.A. in Education. In 2011-12, The University has initiated another four new programmes: PG Diploma in Retail Management, PG Diploma in Financial Management, PG Diploma in Forensic Science and Bachelor in Hotel Management & Catering Technology. From session 2014-15, the University has launched 5-year integrated course in Applied Management.

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Department of Physical Education has been on national map for providing B.P.Ed. and M.P.Ed. Courses for students and hosted several national tournaments.

**1.1.5 Does the university interact with industry, research bodies and the civil society in the curriculum revision process? If so, how has the university benefitted through interactions with the stakeholders?**

Yes, Jiwaji University regularly interacts with industry, research institutes and the civil society in the process of curriculum revision as well as design.

The interaction of Industry with departments like MICA, CSM, MBA, Computer Science, and other professional courses, helps in curriculum revision towards meeting shared objectives. Such interaction enhances employment opportunity for students.

Interactions with research laboratories and institutions help in curriculum changes which help students to pursue research in emerging areas.

Certain courses related to society needs are emerged from such interactions which help the University to build its expertise and train human resources in the relevant key areas.

The University collects suggestions/feedback in the standard format from Alumni and stakeholders. These data are analysed and given due consideration while revising the curricula.

**1.1.6 Give details of how the university facilitates the introduction of new programmes of studies in its affiliated colleges.**

The University takes a leadership role in introducing new programmes in its affiliated colleges by encouraging need based programmes like Bioinformatics, Electronics, Forensic Science, Food technology, Computer science, Management etc. The University encourages affiliated colleges with requisite infrastructural facilities to initiate new programs/courses. A College Development Council is set up separately to promote and monitor academic programs of the affiliated colleges. The affiliated colleges can adapt the running programmes at the University. These can be done by following procedures laid down in the Statutes. First of all, colleges have to obtain a No Objection Certificate (NOC) from the government and then apply to the University for Affiliation. Then the college is required to present proposal before Dean, College Development Council (DCDC). A committee is constituted for inspection to assess the need and relevance of the course, infrastructure and availability of teachers. Based on its recommendation, the University provides affiliation for the particular course. The University also takes responsibility of designing the syllabus in case of a new programme.

**1.1.7 Does the university encourage its colleges to provide additional skill-oriented programmes relevant to regional needs? Cite instances (not applicable for unitary universities).**

The University promotes initiation of 'Skill development programs' not only in affiliated colleges but also on University campus. Many colleges are running skill development certificate courses which promote employability of the graduate and postgraduate students. The School of Studies in Distance Education of the University conducts number of workshops, seminars, trainings and orientation programmes at college level to provide knowledge, awareness skills career making professional education to students, youth and community peoples. The University encourages

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colleges to provide short term vocational courses relevant to regional needs. The UGC has recently sanctioned financial assistance to the University to start skill-oriented programmes in “Printing Technology”.

## **1.2 Academic Flexibility**

### **1.2.1 Furnish the inventory for the following:**

#### **(i) Programmes taught on campus**

##### **A: Entrance Test Based Courses:**

Admission will be through Entrance Test conducted by the University.

##### **M.Sc.**

- Biomedical Technology
- Biotechnology
- Environmental Chemistry
- Food Technology
- Instrumentation and Commercial Methods of Chemical Analysis (MICA)
- Microbiology
- Neuroscience
- Pharmaceutical Chemistry

##### **M.B.A.**

- Business Economics
- Chemical Sales & Marketing Management
- E-Commerce
- Financial Administration
- Heritage Tourism Management
- Hospital Administration
- Human Resource Development
- Tourism Administration

##### **Graduate Courses**

- B.A.LL.B. (5 years Integrated)
- Bachelor Business Administration (BBA)
- Bachelor Computer Application (BCA)
- Hotel Management & Catering Technology (BHM&CT)
- Bachelor of Tourism Management (BTM)
- Applied Management (BM, BAM, MAM)
- (5 years Integrated)

##### **Law Courses**

- LL.M.

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### **Physical Education Courses**

- Bachelor of Physical Education (B. P. Ed.)
- Master of Physical Education (M. P. Ed.)

### **M. Phil**

- AIHC&A
- Botany
- Chemistry
- Commerce
- Computer Science & Application
- Economic
- Education
- English
- Food Technology
- Hindi
- History
- Mathematics
- Physical Education
- Physics
- Political Science
- Public Administration
- Sanskrit
- Sociology
- Zoology

### **B: Non-Entrance Test Based Courses:**

Admission will be on Merit in Index on qualifying examination.

### **M.Sc.**

- Biochemistry
- Botany
- Chemistry
- Computer Science
- Electronics
- Environmental Science
- Geology
- Industrial Chemistry
- Mathematics
- Molecular & Human Genetics
- Physics
- Remote Sensing and Geographical Information System
- Zoology

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## **M.A.**

- Ancient Indian History Culture and Archaeology (AIHC&A)
- Economics
- Education
- English
- Extension Education & Social work
- French
- Hindi
- History
- Jyotirvigyan
- Political Science
- Psychology
- Public Administration
- Sanskrit

## **Master of Commerce**

- M.Com.

## **Library & Information Science Courses**

- Bachelor of Library& Information Science  
(B. Lib. I. & Sc.)
- Master of Library& Information Science  
(M. Lib. I. & Sc.)

## **P.G. Diploma Courses**

- Computer Application (PGDCA)
- English
- Financial Administration
- Forensic Science
- French
- Marketing Management: Advertising and Sales Administration
- Museology
- Retail Management
- Yoga Therapy

## **Certificate Courses**

- English
- French

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## Journalism Courses

- Master of Journalism & Mass Communication

## Distance Education

In order to provide quality education to youngsters of rural areas and to enable them to prepare for a constructive role in the society, Jiwaji University offers following graduate, post-graduate and diploma courses in distance mode of education:

- B.A., B.Com, B.Sc., B.Lib.I.Sc., BJMC
- M.A. (Economics, History, Sociology, English, Hindi, Sanskrit, Political Science, Public Administration, Geography, Social Work, Drawing & Painting, M. Lib. I. Sc., MJMC)
- MBA (General, RTM, CSM)
- P. G. Diploma (Psychological Counselling, Computer Applications, Human Resources Development, Yoga Education)

(ii) Overseas programmes offered on campus: Nil

(iii) Programmes available for colleges to choose from:

All the PG programmes and the Ph.D. programmes (only in approved Research Centres) are available for colleges. College can also conduct Diploma and Certificate courses run by the University.

### 1.2.2 Give details on the following provisions with reference to academic flexibility

#### a. Core / Elective options

The School of Studies offer number of elective papers mainly in III and IV semester of post-graduate programmes in addition to core papers. This academic flexibility is helpful to students to fulfil their interest. A candidate has to complete the entire course of PG degree within a maximum period of 6 semesters with a mandatory 4 semesters. Introduction of Cafeteria based courses' is under consideration.

#### b. Enrichment courses

Many courses running on the campus are enriched by introduction of 'Project work' of durations ranging from 2 to 4 months. The project works enable students to strengthen their practical skills and also encourages them to continue their studies for doctoral courses. Further, students are allowed to enrol in any foreign language course while doing regular PG programmes. Students can also enrich any non-credit courses for which no marks will be added to their PG course. The School of Studies in Chemistry offers enrichment courses like Mathematics for Chemists; Biology for Chemists and Computers for Chemists. Similar enrichment courses are also offered in Engineering, Pharmacy and Management. Students can also enrich themselves by doing summer training and project work. The University also gives opportunity to students for improvement of papers.

**c. Courses offered in modular form**

The University very recently offers one integrated course in modules of UG + PG. This course is called 5-year integrated Master in Applied Management. Many such modular based courses are going to be started in near future.

**d. Credit accumulation and transfer facility: No**

**e. Lateral and vertical mobility within and across programmes, courses and disciplines**

The University allows Lateral entry only in two disciplines: Pharmacy and Engineering.

**1.2.3 Does the university have an explicit policy and strategy for attracting international students?**

15% of the total seats in all courses are reserved for NRI and Sponsored candidates provided they have minimum required percentages in qualifying examinations. The foreign students are exempted from entrance examination. Many students from neighbouring countries like Bhutan, Nepal, Mongolia and some African countries take admission in various courses.

**1.2.4 Have any courses been developed targeting international students? If so, how successful have they been? If 'no', explain the impediments.**

The courses in basic subjects are universal in nature and open to students outside India as well. The courses and programs designed by the University with focus on employability, regional and National demands are meant for our students but are open to International students as well.

The impediments are:

- (i) Lack of additional faculty members
- (ii) Lack of some infrastructure facilities for foreign students

**1.2.5 Does the university facilitate dual degree and twinning programmes? If yes, give details.**

The University initiated obtaining technical clearances for development of tie-ups with International Universities with the sole objective of developing 'Dual degree/Common degree programs.

**1.2.6 Does the university offer self-financing programmes? If yes, list them and indicate if policies regarding admission, fee structure, teacher qualification and salary are at par with the aided programmes?**

Yes, Jiwaji University offers a large number of self-financing courses that are considered 'Professional' with potential job opportunities. These are listed below:

| S.N. | School of Studies/Institute | Self-financing programmes   |
|------|-----------------------------|---|
| 1    | Chemistry                   | M.Sc. Instrumentation and Commercial Methods of Industrial Analysis (MICA); M.Sc. Environmental Chemistry; M.Sc. Pharmaceutical Chemistry; M.Sc. Industrial Chemistry and MBA Chemical, Sales & Marketing Management. |
| 2    | Botany                      | M.Sc. Microbiology; M.Sc. Food Technology   |
| 3    | Zoology                     | M.Sc. Neuroscience; M.Sc. Molecular & Human Genetics  |

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|----|---|---|
| 4  | Physics                                   | M.Sc. Electronics   |
| 5  | Biochemistry                              | M.Sc. Biomedical Technology.  |
| 6  | Mathematics                               | M.Sc. Computer Science  |
| 7  | Earth Science                             | Remote Sensing & GIS  |
| 8  | Economics                                 | MBA in Business Economics   |
| 9  | Political Science & Public Administration | MBA Financial Administration; MBA Human Resource Development; PG Diploma in Retail Management, Financial Administration and Marketing Management. |
| 10 | Management                                | BBA, Applied Management   |
| 11 | Tourism                                   | MBA Tourism Administration; BTM; BHM & CT; MBA Hospital Administration  |
| 12 | Computer Science & Application            | MBA e-Commerce; BCA; PGDCA  |
| 13 | Engineering                               | BE Chemical Eng., Electronics and Computer Sc.  |
| 14 | Law                                       | BA LLB (5 year); LLM  |
| 15 | Pharmacy                                  | B. Pharm., M. Pharm.  |
| 16 | Library & Information Sc.                 | Master in Journalism & Mass Communication   |
| 17 | Language                                  | MA Hindi, English, Sanskrit, French<br>Diploma in English, Sanskrit and French  |
| 18 | AIHCA                                     | MA History; MBA Heritage Tourism Management   |
| 19 | Physical Education                        | B.P. Ed.; M.P. Ed.  |
| 20 | Extension Education & Social Work         | MA Education, M. Phil Education   |

**1.2.7 Does the university provide the flexibility of bringing together the conventional face-to-face mode and the distance mode of education and allow students to choose and combine the courses they are interested in? If 'yes,' give operational details.**

The University allows graduate students of 'distance mode' to apply for regular PG courses. The science based courses under 'Distance mode' have practical exercises common to those of regular students and are conducted in laboratories like those of regular stream.

**1.2.8 Has the university adopted the Choice Based Credit System (CBCS)? If yes, for how many programmes? What efforts have been made by the university to encourage the introduction of CBCS in its affiliated colleges?**

Not at present but it is under consideration.

**1.2.9 What percentage of programmes offered by the university follow:**

- (i) Annual system: 5%

- (ii) Semester system: 95%
- (iii) Trimester system: Nil

**1.2.10 How does the university promote inter- disciplinary programmes? Name a few programmes and comment on their outcome.**

Jiwaji University is running several courses of 'interdisciplinary nature'. The University encourages its faculty to undertake inter-disciplinary research leading to Ph.D. degree. The programmes offered as M.Sc. in Neuroscience, Molecular & Human Genetics, Food Technology, Biotechnology, Microbiology, and Remote Sensing and GIS are some of our popular inter-disciplinary programmes.

**1.3 Curriculum Enrichment**

**1.3.1 How often is the curriculum of the university reviewed and upgraded for making it socially relevant and/or job oriented / knowledge intensive and meeting the emerging needs of students and other stakeholders?**

The University reviews and upgrades curriculum of different courses annually through Board of Studies meeting held every year of the concerned subjects for making it socially relevant/job oriented/knowledge intensive and meeting emerging needs of students.

**1.3.2 During the last four years, how many new programmes at UG and PG levels were introduced? Give details.**

- (I) Inter-disciplinary: 5-Year Integrated Applied Management course and 5-year BA-LLB course.
- (ii) Programmes in emerging areas: Remote sensing and GIS
- (iii) MBA in e-Commerce, Heritage Tourism Management, Hospital Administration
- (iv) Bachelor in Hotel Management & Catering Technology

**1.3.3 What are the strategies adopted for the revision of the existing programmes? What percentage of courses underwent a syllabus revision?**

All courses (100%) without exception undergo syllabus revision in every academic year. The syllabi of the existing programmes get revised based on following strategies:

- (I) Suggestions received from faculty members through their Staff Council
- (ii) Suggestions received from external experts and student's representative through BoS
- (iii) Views of various stakeholders

**1.3.4 What are the value-added courses offered by the university and how does the university ensure that all students have access to them?**

There are several courses available as value-added courses such as:

- (I) Remote Sensing and GIS
- (ii) Journalism & Mass Communication
- (iii) Industrial Chemistry
- (iv) Hospital Administration
- (v) Hotel Management & Catering Technology

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(vi) Tourism Administration

These courses are well publicized for the benefit of all.

University Career Counselling Cell also takes care of value-added courses.

**1.3.5 Has the university introduced any higher order skill development programmes in consonance with the national requirements as outlined by the National Skills Development Corporation and other agencies?**

As mentioned earlier, the University is in the process of starting a new skill development programme on “Printing Technology” from the next academic session as UGC has already sanctioned financial assistance for this course.

**1.4 Feedback System**

**1.4.1 Does the university have a formal mechanism to obtain feedback from students regarding the curriculum and how is it made use of?**

Yes, the University has a formal mechanism to obtain feedback not only from students but also from Alumni using the in-house format designed by the IQAC. The feedback is conveyed to the teacher concerned for information and corrective measures, if needed. The feedback is assessed by the departmental staff council and recommendations are passed on to their respective Board of Studies for implementation.

**1.4.2 Does the university elicit feedback on the curriculum from national and international faculty? If yes, specify a few methods such as conducting webinars, workshops, online discussions, etc. and its impact.**

Yes. Very recently Prof. Ray Butcher, from Howard University and Prof. Jerry P. Jasinski, from Keene State College, New Hampshire, USA suggested curriculum revision on X-ray crystallography in M.Sc. Chemistry syllabus.

Experts of National repute are nominated on Boards of Studies of every course and curricula revisions involve National level subject experts.

As such, the staff council of every department seeks views of subject experts outside Jiwaji University and their inputs are given due consideration while framing the curricula.

Many departments conduct workshops and seminars in which faculty receives inputs for curriculum revision.

Webinars and online discussions are planned from next academic sessions.

**1.4.3 Specify the mechanism through which affiliated institutions give feedback on curriculum enrichment and the extent to which it is made use of.**

Faculty from affiliated colleges are members of Board of Studies. Even the faculty from remote colleges are also nominated on BoS, to get their suggestions and also if any difficulty they face in teaching their subjects. They participate in the meetings held once in a year to discuss academic issues including curriculum enrichment. Many departments in School of Studies conduct workshop where college faculty gets opportunity to discuss curriculum revision.

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#### 1.4.4 What are the quality sustenance and quality enhancement measures undertaken by the university in ensuring the effective development of the curricula?

As regards to quality sustenance and quality enhancement, Jiwaji University undertakes following measures:

- (i) All the departments in Jiwaji University have adopted uniform pattern of examination so that students have greater flexibility.
- (ii) Students can choose from a large number of optional papers in a given subject as per their interest particularly in the third and fourth semester of the PG programme.
- (iii) Feedback is obtained from all students in fourth semester before completing their PG programme.
- (iv) Analysis of student's feedback is well taken in the staff council meeting of the particular department.
- (v) Continuous revision of curriculum takes place annually.
- (vi) Internal quality sustenance and quality enhancement are done through IQAC members. *Any other information regarding Curricular Aspects which the university would like to include.* Apart from regular revision of existing curriculum, new courses are added to the list every year. Many other optional value-added courses are likely to be started for greater diversity with wider options.

These are mentioned below:

1. Master of Financial Management
2. M.Sc. Cosmetic Science & Technology
3. M.A. Security Management
4. M. Tech. Electronics, Comp. Sc. & Chem. Engg.
5. M. Tech. Nanoscience & Technology
6. Bachelor Business Studies
7. B.Com. L. L. B. (5 yrdc)
8. Diploma Food Production
9. P. G. Diploma Diabetology
10. Diploma Spirituality & Personality Development
11. Restarting of M.Sc. Medicinal Plants & Herbal Resource Management

Jiwaji University is open to encourage more teaching and research collaborations at National and International level.