

### **3.1.5. Institution has the following facilities to support research:**

- 1. Central Instrumentation Centre**
- 2. Animal House/Green House**
- 3. Museum**
- 4. Media laboratory/Studios**
- 5. Business Lab**
- 6. Research/Statistical Databases**
- 7. Mootcourt**
- 8. Theatre**
- 9. Art Gallery**
- 10. Any other facility to support research**

**Additional Information**

## **1. Central Instrumentation Laboratory**

For excellence in teaching and research in the Department of P.G. Studies and Research in Chemistry and Pharmacy, Biological Science and Physics and Electronics and Design Innovation Center of the Rani Durgavati University, Jabalpur state-of-the-art sophisticated equipment's, and various support facilities have been created. These equipment's and facilities help the faculty, research scholars and students to carry out globally competitive R & D in basic and applied science. Since individual researcher may not be able to generate huge research funds for the research instruments, a Departmental Central Instrument Facility was started in R.D. University with a mission to enrich the resources on a shared basis for promoting R & D with the following objectives.

- ✓ To strengthen technical infrastructure to carry out advanced and innovative research in various science disciplines make their services available to academic departments.
- ✓ To organize short-term courses/workshops on the use and application of various spectroscopic and analytical technique for students, teachers and technical personnel from our University, affiliated institutions, Universities and Industry in the region.
- ✓ To develop new analytical techniques: Efforts are being made by the departmental central laboratory to develop new techniques / methods of analysis to put the instruments to their full use and offer them to the scientists for exploring new dimensions in research in various areas of science and technology.
- ✓ To allow outside users to utilize facilities.
- ✓ To start Bachelor and Master level Courses on instrumentation.

### Central Instrumentation Laboratory (03)

(i) Department of P.G. Studies and Research in Chemistry and Pharmacy  
Established in 2011.

S. No.	Name of equipment's
1.	FT-IR Spectrometer 03
2.	Cuvette-based fluorescence & UV/Vis spectrophotometer
3.	Inverted fluorescent microscope
4.	Double Beam UV-VIS Spectrophotometer (02)
5.	Fully automated Heamatology analyzer
6.	Dissolution Rate equipment
7.	Sieve Shaker
8.	Freeze drier
9.	Homogenizer
10.	Deep freezer
11.	Monowave-200
12.	Rotator vacuum Evaporator
13.	Electrophoresis
14.	Moduler Circular Polarimeter
15.	Magnetic susceptibility
16.	Atomic Absorption Spectrophotometer
17.	Electrochemical system
18.	HPLC (02)

**(ii) Department of P.G. Studies and Research in Biological Science**

<b>Central Instrumentation Lab-1 Establishment year 2008</b>	
<b>S. No.</b>	<b>Name of Equipment's</b>
1.	PCR mini cycler
2.	Cooling Centrifuge CM -12
3.	UV-VIS Spectrophotometer – 108
4.	Chemito HPLC
5.	Comfuge Cooling centrifuge CPR-24
6.	Orbital shaking incubator CIS-24BL
7.	Ice Making Machine
8.	Eppendorf Master Cycler gradient
9.	Horizontal Autoclave YSU-405
10.	Elisa Reader
11.	Micro centrifuge RM-12CDX
12.	Micro centrifuge RM-12CDX
13.	Horizontal Laminar Air Flow (04 No.)
14.	170 Lit. Quick Freezers vertical
15.	Cooling Incubator 12 Cubic Ft.
16.	Centrifuge Revolutionary
17.	Digital Visible Spectrophotometer
18.	Smart UV-VIS Spectrophotometer
19.	Autoclave PLT-101
20.	Double Beam Scanning UV/ Visible Spectrophotometer
21.	Gel documentation system
22.	Binary HPLC systems
23.	Optima MAX-XP tabletop Ultracentrifuge
<b>Central Instrumentation Lab-2 Establishment year 2018</b>	
24.	Fully Automatic Vertical Autoclave
25.	Next generation DNA Sequencer Model ION-S5
26.	Atomic Absorption Spectrophotometer Model iCE3300
27.	Ultra Sonicator SKL-250
28.	Bench top freeze Dry System
29.	FTIR Thermo Nicolet iS5
30.	Single Quadrapole Mass Spectrophotometer (GCMS) Thermo ISQ7000
31.	Real Time PCR Thermo Quant Studio 3
32.	Cooling Micro Centrifuge Eppendorf 5418R
33.	Bench Top Flow Cytometer Thermo Attune Nxt

**(iii) Department of P.G. Studies and Research in Physics and Electronics**

<b>S. No.</b>	<b>Name of Equipment's</b>
1.	Powder-Xray Diffractogram
2.	Solid State NMR Spectrometer
3.	Fluorescence Spectrometer
4.	Carl-Zeiss NU 2 Microscope
5.	1620-AP Capacitance Measuring Assembly
6.	Perkin Elmer Lambda 12 UV/VIS Spectrometer
7.	Four Electrometers including 610 C Keithley electrometer
8.	Grating Microchrometer, Ni-Elvis Electronic work bench
9.	Photon Counter
10.	Microscope Labophot Model, Microwave Bench
11.	Vacuum Coating Unit (two) with thickness monitor
12.	He-Ne Laser and Semiconductor Laser
13.	Optical Fibre Kit
14.	Ni-Elvies Electronic Work Bench
15.	Microwave Bench

### **3. Museum:**

#### **Pandit Ravishankar Shukla Museum**

Pandit Ravishankar Shukla Museum is the valuable and important part of the department of P.G. studies and Research center in Ancient Indian History, Culture and Archaeology, RDVV, Jabalpur.

This Museum was established since 1976 in the campus of RDVV Jabalpur. The collection of Museum represents almost all disciplines of art, fossil, stone tools, Metal artifacts, images and much more. Stone tools of stone age are kept in the museum. These tools are important for the study of Ancient Indian civilization. Shiva, Vishnu, Uma-Maheshvar, Dashavtar, Nritya Ganesha, Harihara, Surya, Sesasayina Vishun, Saraswati, Mahesvari Jain Tirthankaras and other huge number of images and sculptures of Kushana and Kalchuri period are displayed in the sculptures section of the Museum.

Another important section of the museum is Coin section. A large collection of coins from various rulers and period like Nagas, Guptas, kalachuris are facilitated to student in their study. Some beautiful and important Paintings are also preserved in the museum. Rare Photographs of ancient Indian temples, sculptures and historic places are kept in the museum. Toys and seals of Harappa Civilization and some seal of Gupta and Kalachuri period are displayed in the museum. Rare and important Manuscripts are preserved in the museum.

#### **4. Media laboratory/Studios:**

The studio was established in Department of P.G. Studies and Research in Journalism and Mass Communication on 1994. The department give equivalent importance on theory as well as practical. All fields of Mass Communication are skill based and to make career in any of these fields require gaining knack in concerned area. Application of audio-visual medium is well known especially for students and researchers of Mass Communication.

To provide practical training to students in the area of audio-visual communication in Rani Durgavati University has set up a studio in the Centre for department. The studio is very heart of department for practical learning in audio-visual productions. Here, students are given opportunity to make news bulletins and documentaries. The students learn art of video camera operations and still photography. They shoot short movies, do sound recordings and edit these movies. Studio facility is also utilized by professors of university to record lectures for the benefit of students. Short movies produced by Mass Communication students have been acclaimed at various competitions.

The studio is equipped with following facilities:

- 1) Digital Video Camera
- 2) Tripod Stand
- 3) Studio Lighting
- 4) Anchor Table
- 5) Mike
5. Still Camera
- 6) Video Camera Handycam
- 7) Television Screen
- 7) Computer with Editing Software

## **8.Moot Court: Department of P.G. Studies and Research in Law**

Moot Court is an artificial Court which is especially made for the law students to have the practical knowledge of drafting, pleading and conveyancing. In the moot court an artificial problem was given to the students for which they have to prepare their arguments and present it before an expert. The moot court is now become the part and parcel of the law syllabus in every university. It is included as a practical syllabus, training paper. The purpose behind making it as a compulsory subject is to make acquainted with the various procedural aspects by the law students. It gives an opportunity to the students to prepare their own arguments and present it before an expert called Judge. At the one hand it provides an opportunity for the students to know the law, to know the drafting skill, how to present the case before the Judge, the manners and etiquettes etc.; and the other hand it gives the self-confidence to the students for arguing the case before the Judge.

It increases the stage daring of the students to know their capabilities and shortcomings. The most important advantage of the law students that it helps them to know the minimum requirements in advocacy so that when they enter into the profession it really helps them to cut down their waiting period.



## 10. Any other facility to promote research

### Design Innovation Centre (Established in 2015 Under MHRD Govt. of India Project)

Achieve better ecological performance. In contrast to a design that mimics nature or draws on biology for inspiration, Bio-Design incorporates living organisms into design as building blocks, material sources, energy generators, digital storage systems and air purifiers, just to name a few possibilities. Bio-Design is both opportunistic and logical in recognizing the tremendous power and potential utility of organisms and their natural interaction with larger and ever-changing ecosystems around them. Bio-Design can also be a means of communication and discovery, a way to provoke debate and explore the potential opportunities and dangers of manipulating life, particularly through synthetic biology, for human purposes.

This new approach is often a response to the growing urgency to build and manufacture more sustainably in light of the climate crisis. This, in turn, leads to unprecedented collaborations between designers and life scientists, such as biologists who increasingly understand how organisms' function to the molecular level. The recent proliferation of such cross-disciplinary activity is occurring in schools, labs and even in garage work benches around the world. One important outcome of this new approach to design has been the development of critical and narrative objects that blur the border between art and design and which envision the effects of new technologies and scientific research on human behavior and culture.

S. No.	Name of Equipment's
1.	GC-MS Spectrometer, Shimadzu, Japan
2.	FT-IR Spectrophotometer, Shimadzu, Japan
3.	AAS Spectroscopy Shimadzu, Japan
4.	UV-Spectroscopy Shimadzu, Japan
5.	Spectro Fluorometer, Shimadzu, Japan
6.	UV Eppendorf Spectroscopy Eppendorf
7.	RT-PCR Hi-Media (Intas q 96)
8.	LAF (vertical) Rescholar
9.	Autoclave Remi
10.	Centrifuge Eppendorf

11.	Light microscope (Computer) Metzer
12.	Gel documentation Instas Chemostar M6
13.	Gel snapshot Invitrogen
14.	Rotary shaker Perfit India
15.	Orbital Shaker Remi
16.	Rotary shaker Perfit India