Govt. Model Science College (Autonomous)



Centre of Excellence for Science Education College with Potential for Excellence NAAC Reaccredited "A" Grade

Website: http://www.mp.gov.in/higereducation/Jabalpur

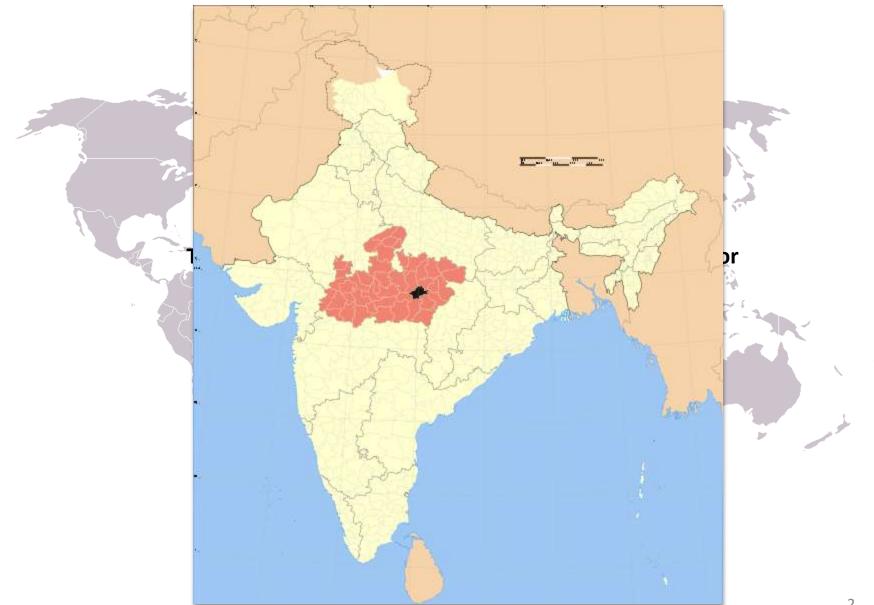
Email: hegscjab@mp.gov.in

Ph: 0761-2678737 Fax: 0761-2621272

Dr. S.K. Srivastava, Principal

Address: Pachpedi, South Civil Lines, Jabalpur, Madhya Pradesh - 482001

Jabalpur, Coordinates 23°10′N 79°56′E



http://commons.wikimedia.org/wiki/File:Madhya_Pradesh_district_location_map_Jabalpur.svg

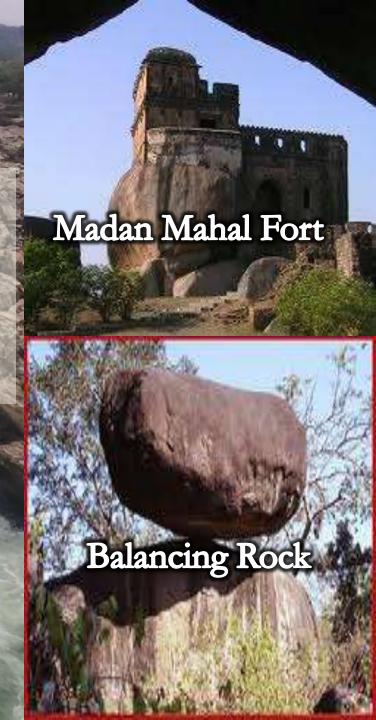


Origin of the Name

Arabic word 'Jabal' meaning 'Mountain' Sanskrit word 'Pura' meaning 'City'

Jabalpur is the tapasya bhumi of a mythological figure sage Jabalie, from whom the name Jabalpur is derived

The famous game of Snooker was conceived in Jabalpur



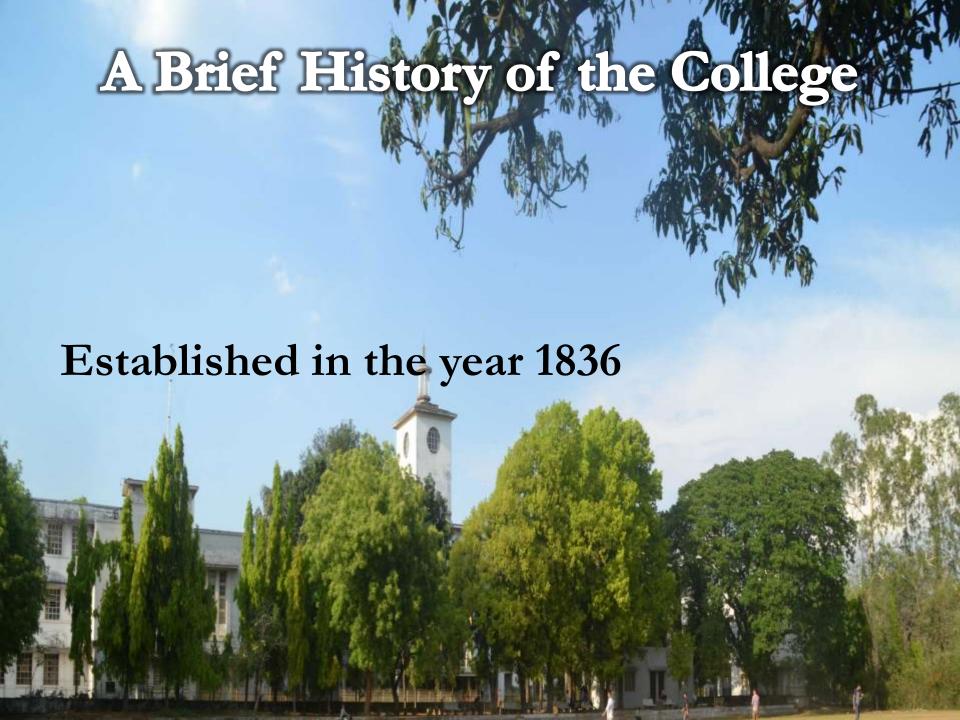
Dhuandhar falls

Eligibility for Heritage Status

	Criteria	Fulfilling
1	UCG letter regarding inclusion under list of Universities receiving plan grants from UGC	Yes
2	Should be more than 100 years old	Yes
3	Highest grading by assessment and accreditation agency recognized by UGC	Yes
4	Two times award in last 10 years	Yes
5	Proceedings against the College by the Government (State / General) in present or last 60 years	No
6	Proof of date of existence	Yes
7	Details of plan	Yes









Early History of Robertson College

- Origin traced back to Sagar, which was its home from 1836 to 1873
- Established in 1836 as Sagar Govt
 School-in Sagar
- Upgraded to Sagar Collegiate School in
 1860 by starting F.A. (Fine Art, a degree equivalent to 12th grade) classes

http://www.gokuldas.com/jabal/index.php?jabal=4 http://en.wikipedia.org/wiki/Robertson_College_Jabalpur

Early History of Robertson College

- The institution was moved to Jabalpur in 1873 as Jabalpur became more central and accessible to other parts of India
- Was housed in a modest building in the Milloniganj area on the Damoh road for twenty years
- In 1893 it was transferred to a building called Lakh-Khana, since it was an abandoned lac-factory

History of Robertson College

- Previously called Jubbulpore College
- 1911— the construction of new building started in Gokulpur, near Ranjhi
- Delayed due to certain equipment being sunk when the 'Maloya' was torpedoed during the First World War.
- Inauguration of the building in 1916 by The Chief Commissioner, Sir Benjamin Robertson, after whom the College was re-named
- In 1947 after independence, renamed Mahakoshal Mahavidyalaya

Robertson College

- In 1955 relocated in Pachpedi, while its magnificent building at Gokulpur was given to the newly established Government Engineering College
- Underwent the process of bifurcation in the year 1962 and Govt. Science College started its independent existence
- Many distinguished scholars have emerged from the Robertson College and its descendant institutions

Accreditation by NAAC, Bangalore

2002 Accreditation 'A' grade88.9% score point

-2011 Reacreditation 'A' grade CGPA: 3.10

Details of Departments:

8(A)Names of Departments with year of establishment

	<u>UG</u>	<u>PG</u>
Botany	1896	1950
Chemistry	1896	1954
Mathematics	1896	1945
Zoology	1896	1952
Physics	1896	<u> 1948</u>
Hindi	1916	1928
English	1916	1939
Geology	1947	1952
Military Science	1972	
Environmental Science	(1991)1988

8(A) Names of Departments (Self Finance Subjects) with year of establishment

Courses/ Subjects	Year	Number of
		Students
ВСА	2001	88
Environmental Science	1988	83
Electronics	1991	98
Biochemistry	1991	55
Computer maintenance	1994	72
Computer Application	1994	142
Biotechnology	1999	259
Computer Science	2001	451
Microbiology	2001	159

8(C) Names of Departments working like a National Facility, if any:

Department of chemistry is having a central Instrumentation facility.

Catering to the

needs of the students, teachers, research scholars and others in whole Mahakaushal area.



1. ACADEMIC ACTIVITIES DESCRIPTION

Programmes	Number of Programmes	Number of students enrolled
UG	B.Sc.	2409
PG	M.Sc. 7 subjects	352
M.Phil	-	-
Ph.D.	7 subject	95
Certificate Course	-	-
Diploma	-	-
PG Diploma	_	_
Any other (please specify)	_	-

1.2 Self-financing courses offered by the Institution

Programme	Level of Study	Students	Funds
		enrolled	generated
BCA	Degree	120	

1.3 Temporal plan of academic work in the Institution: Semester System

1.4 Total No. of students of the Institution who have passed the following Competitive examinations in the last five years:

- a) UGC-CSIR (NET) 9
- b) SET: -
- c) **GATE**: 4
- d) Indian Civil Service: 2
- e) Any other (specify):

MPPSC 20

1.5 No. of students of the Institution qualified in the UGC-CSIR/GATE examinations and who have registered for research in the College during the last five years:

One

2. TEACHERS

2.1	Total number of sanctioned posts:	112
2.2	Total number of filled up posts on regular	
	basis:	90
2.3	Total number of filled up posts on adhoc/	
	temporary basis :	22
	Teachers for self finance courses:	19
2.4	Total number of vacancies:	22
	(Vacant posts are filled by Guest faculty by Sta	ate
	Government)	
2.5	Percentage of vacancies to the sanctioned p	ost
	•	24%

2.6 Category-wise No. of teaching Staff : Regular Staff

Category	Female	Male	Total
SC	2	4	6
ST	6	6	12
ОВС	2	1	3
PWD	-	-	-
General	27	42	69
Total	37	53	90

2.7 Number of teaching staff qualification-wise as on date:

Department	Number of Regular Faculty Members Holding Highest Degree				
	M.Sc. Ph.D. D.Sc.				
Chemistry	_	26	01		
Physics	-	22	_		
Mathematics	02	07	_		
Botany	01	80	_		
Zoology	_	06	_		
Geology	01	05	_		
Military Science	_	02	_		
Environment al Science	_	01	_		
Language	02(M.A.)	07	_		

2.8 Ratio of Full-Time teachers to part-time/contract teachers as on date: 2.2:1
2.9 Percentage of classes taught by full-time teachers as on date: more than 75%

Highest qualification of	Female	Male	Total
PERMANENT TEACHERS			
Ph.D.	36	48	84
M.Phil	_	_	_
PG	1	5	6

Highest qualification of Guest Faculty

	Female	Male	Total	
TEMPO	RARY TEACHI	ERS		
Ph.D.	6	4	10	
M.Phil	1	1	2	
PG	4	6	10	
PART-TIME TEACHERS				
Ph.D.	6	4	10	
M.Phil	1	1	2	
PG	3	3	6	
Total No. of visiting Teachers	21	19	40	

- 2.11 Facilities available and activities under taken to enable the teachers keep abreast of recent developments in their subject area:
- Research facilities and well equipped research labs every department
- Invited lectures, lecture series, workshops, seminars are regularly organised
- Internet facility available in every department college subscribes 25 research journals, 2100 ejournals
- Teachers also participate in National and International Conferences to present their researches

- 2.12 No. of teachers inducted in the use of computer, information technology and such support services/during the last three years :
- Faculty members of Department of Mathematics, Physics are well versed in computer
- Training courses are organised for other teaching and non teaching staff and students.
- Wifi zones are also created in the campus. Other staff members are also engaged in computer related work as every department is equipped with computer/internet facility.

Organization of Training Programs

- Frequent staff training programs on varied topics
- Computer training programs for
 - ✓ Teaching staff
 - √ Supporting staff
- Vocational training for students
- Career guidance by Eminent/Expert Resource Persons

2.13 College follows self-appraisal method to evaluate teachers regarding research and other activities.

Self appraisal of teachers are taken on yearly basis and analysed by higher authorities at the Department of Higher Education Govt. of M.P. Bhopal.

- 2.14 College has a mechanism (other than self-appraisal) to evaluate teachers on teaching, research and other activities.
- •Peer review is done by higher authorities of Deptt. of Higher Education, Govt. of M.P. time to time.
- •Evaluation of teachers by students are being conducted every year
- •Principal of the college also evaluate the faculties on its own way.

Research Consultancy and Extension

2.15 What are the national and international linkages established for teaching and Research? Details of beneficiaries of linkages :

Present Research Projects funded by

- 1. University Grants Commission (UGC)
- 2. Department of Science & Technology (DST)
- 3. Bhabha Atomic Research Centre (BARC)
- 4. Defense Research & Development Organization (DRDO)
- 5. Indian Institute of Tropical Meteorology, PUNE, Ministry of Earth Sciences
- MP Council of Science & Technology (MPCST), Bhopal

International Recognition of Faculty

- Several Faculty members involved in the referee work for International Journals of Repute
- Dr A.K. Bajpai Published a Book entitled "Stimuli Responsive Drug Delivery: From Introduction to Application", Publishers- Ismithers Rapra in 2010

Collaboration

- National Environmental Engineering Research Institute, NAGPUR
- Tropical Forest Research Institute (TFRI), Jabalpur
- State Forest Research Institute (SFRI),
 Jabalpur
- Zoological Survey of India, Jabalpur
- MP Pollution Control Board

Collaboration

- IIITDM, Jabalpur
- Babasaheb Bhim Rao Ambedkar -Telecom Institute
- Narmada Gelatin Factory
- Jawaharlal Nehru Krishi
 Vishwavidyalaya, (JNKVV), Jabalpur
- Geological Survey of India

MOU with Swedish Firm

- ❖ A memorandum of understanding between Govt. Model Science College, Jabalpur and TRIOMED-AB, Sweden for 2013-2015
- The company is manufacturing a portable machine for peritoneal dialysis based on Research Publication of Dr. S.K. Bajpai
- **A** non-disclosure agreement

MOU with IITM

- ✓ MOU for Climate Studies with Indian Institute of Tropical Meteorology, Pune, Ministry of Earth Sciences, New Delhi
- ✓ Principal Investigator-
 - Dr R. K. Shrivastava Faculty in Env.Sc.

3. STUDENT ENROLMENT AND STUDENT SUPPORT

3.1 Number of students enrolled in the University/College for the current academic

year according to regions and countries: **UG** including self Ph.D. **Grant Total** PG **Particulars** financing course F F Т M F M M M No. of students from the 1921 524 2445 170 152 28 same state where the institution is located No. of students from other 105 26 40 99 28 48 9 9 **States** No. of NRI students No. of over-seas 1 1 1 students excluding NRI's 63 350 2 **Grand Total**

3.2 Category-wise No. of students in current academic year:

Category	Female	Male	Total
SC	107	299	406
ST	296	379	475
OBC	228	826	1054
PwD	_	_	_
General	296	632	928
Total	727	2136	2863

3.3 Ratio of nonteaching staff to students for the current academic year:

1:18

Details of the two batches of students admitted:

	Batch 1			Batch 2		
Particulars	Year of entry: 2010-2011			Year of entry : 2011- 2012		
	UG	PG	Total	UG	PG	Total
No. admitted to the programme	1120	232	1352	1212	195	1407
No. of Drop Outs						
• Within four months of joining	100	12	112	150	15	165
• Afterwards	20	08	28	50		55
No. appeared for the final year	532	200	744	449	175	624
examination						
No. passed in the final year	466	153	619	410	166	576
No. passed in first class	316	140	456	288	160	448

Provision for bridge/remedial courses to the educationally disadvantageous students

- Remedial courses/coaching
- Coaching for NET exam
- Coaching for entry in services

Details of beneficiaries (UG and PG)

- educationally disadvantageous for students
- > SC/ST students
- Minority students

Lectures of experts from outside of the colleges are also organised.

3.6 No. of students who have received financial aid (from State and Centre separately) during the last two years.

	No. of beneficiaries			
Year	State	Central		
	Government	Government		
Last Year	1622	42		
Year before last	1588	46		

Other Sources of Financial aid to Students

Dr Subbarao memory fellowship awarded to Two students at Post Graduate level

❖ DST INSPIRE fellowship awarded to students on the basis of marks in 12th exams

ADMISSION PROCESS

Students are selected for admission to various courses

- >Through their academic record
- ➤ Online admission through, Department of Higher Education, Govt. of M.P. website

5. RESEARCH, CONSULTANCY AND EXTENSION

- 5.1 No. of teachers actively involved in research:
- •Guiding M.Phil/Ph.D.: 40
- •Operating Research Projects: 9

Offering Consultancy -Honorary consultancy is being done by various departments

Research Activities of Faculty Members in Various Departments in Last 5 Years

Department		earch cations		Participation in Conferences		Guidance to Ph.D. Scholars	
Department	Nation al	Inter national	Nation al	Inter national	Awarde d	Working	
Chemistry	23	168	75	12	56	27	
Physics	30	35	39	16	10	02	
Mathematics	34	24	54	10	02	10	
Botany	18	06	102	02	01	80	
Zoology	27	05	51	09	11	15	
Geology	24	15	17	01	07	06	
Military Science	06	03	06	01	-	-	
Environmental Science	14	07	16	04	80	80	
Language	19	04	61	-	-	02	
					95	78	

Fields of Expertise of Faculty Members of various Departments

Chemistry	Polymer synthesis and characterization, Drug delivery, Hydrogels, Nanocomposites, Block copolymers, Coordination polymers, Condensation polymers, Natural products, Coordination Chemistry
Physics	Cosmic rays, Material Science, Luminescence
Maths	Functional Mathematics, Fuzzy Mathematics with customer relationship, Numerical Mathematics, Spline function, Functional analysis, Mapping in topology
Botany	Phyto chemistry, Aeromycology, Leaf surface microbiology, Plant pathology, Ecology, Plant taxonomy
Zoology	Entomology, Fisheries, Toxicology, Applied entomology, Medical mycology
Geology	Geology, Hydrogeology
Env. Sc.	Environmental pollution, Environmental Impact Assessment, Environmental management

Research Projects of Faculty Members in

Vai	rious Depa	rtments	in La	ast 5 Years	
Donov4	No. of	Mino	r	Majo	r
Depart ment	Members with	Completed	On	Completed	On

Var	rious Depa	artments	in La	st 5 Years	
No. of	Minor		Majo	Major	
epart nent	Members with projects	Completed	On going	Completed	On going

09

01

01

09

09

01

09

01

49

Chemistry

Physics

Maths

Botany

Zoology

Geology

Military

Science

Env. Sc.

80

01

01

01

01

Foreign Visits of Faculty Paper Presentation/ Study Leave

Dr. Anjali Bajpai Visiting Asstt. Professor at Osaka City
University, Osaka Japan, Paper
Presentation At Otsu and Yokohama, Japan
Recently at ICMAT-2013, Singapore

Late Dr. Jayshree Naidu Common Wealth fellow at UK

presented several papers in various international conferences

Dr. R.K.Shrivastava Visited MONGOLIA under Academic Exchange Program Govt. of India

Foreign Visits of Faculty Paper Presentation

Dr Reeta Bhandari	Italy	
Dr. S.K. Shrivastava	Poland, Germany	
Dr. M.L. Chouhan	Italy, Russia	
Dr. Ravi Katare	China	
Dr. P.K. Selot	France	
Dr. S. K. Dubey	Poland	
Dr. S.K. Awasthi	France	
Dr. P.R.S. Chouhdary	Thailand	
Dr. R.K.Pandey	Thailand	
Dr. M. K. Richharia	Germany	

- 5.8 No. of the full time research scholars having fellowship/scholarships such as JRF/SRF: 11
- 5.9 No. of Post-doctoral fellows currently working in the university/college: NIL
- 5.10 No. of the Post-doctoral fellows having Ph.D. degree of other universities/ colleges:
- 5.11 Is there a separate Research Committee to facilities and monitor research? Yes

Journal Published

Sci-fronts

A journal of multiple Sciences

ISSN: 0974-5297

A Peer Reviewed Journal

Grants

UGC XI Plan 2007-2012	01.22 Crore
UGC XI Plan Additional Grant	45.00 Lacs
CPE Phase I	01.00 Crore
CPE Phase II	75.00 Lacs
UGC Golden Jubilee Grant	25.00 Lacs
UGC Girls Hostel Grant	23.86 Lacs
UGC Sports Infrastructure Grant	04.50 Lacs
DST FIST Grant	30.00 Lacs
M.P. Govt. for Auditorium	50.00 Lacs
CPE Phase III (Sanctioned)	01.50 Crore

6. ACADEMIC AND PHYSICAL INFRASTRUCTURE

6.1

- •No. of laboratories: 31 (UG & PG)
- •No. of Research Labs: 15
- •No. of class rooms: 4 lecture halls, 30 class rooms
- •No. of workshops : 01 1 grinding room

GOVT MODEL SCIENCE COLLEGE (Autonomous), JABALDUR - MD 215 216 217 218 224 225 퍨 픨 SECOND FLOOR **ROOM No. 201 - 237** TOILET TOILET 149 150 151 122 123 124 125 126 104 ≌ = FIRST FLOOR ROOM No. 101 - 153 101 A 133 A TOILET TOILET TOILE 43 42 22 23 40 39 LOBBY PORCH TOLET TOLET 33 34

GROUND

ROOM No.

30A

01 A

Central Library

Books 58548 (Print Version)

Journals 25 (Print Version)

Inflibnet N-list Program

Books 50000 (E-books)

Journals 2100 (E-Journals)

Membership of Delnet

Library

- Central Library mainly for UG students
- ➤ Departmental Libraries for PG students

 To ease access of books
- A good collection of rare books of Antique Status
- Internet Connection
- Wi-Fi connection
- Library Automation
 - Online Public Access Catalogue(OPAC)
 - Circulation Service

Laboratories

- Big spacious laboratories with working facilities for more than 40 students at a time
- Old Wooden furniture made of Burma teak
- Learned faculty members for guiding to learn theoretical principles from practical
- High traditions maintained by the faculty
- Excellent environment for solving difficulties of students specially slow learners

B. Sc. Laboratory: Chemistry



B. Sc. Laboratory Zoology



B. Sc. Laboratory Geology



NODAL COMPUTER LAB



Organization of Conferences/ Seminars/ Workshops

Frequent events organized by every department

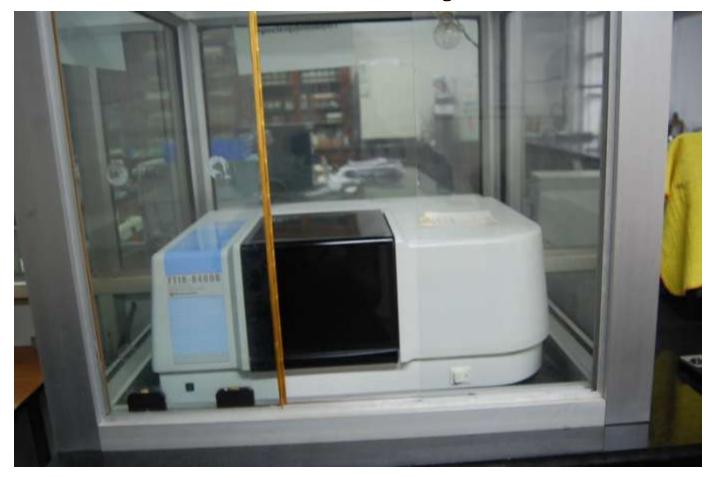
- International Conference NUCAR-2013, February 2013
- NATIONAL WORKSHOP On Spectroscopy, Chromatography And Hyphenated Techniques February 2011
- NATIONAL SEMINAR on Hyphenated Techniques of Chromatography/Spectroscopy: A futuristic application in all branches of Science and Technology October 2011

Publication of News Letter

- >Achievements & Activities
 - **√** Faculty
 - **✓ Students**
- **Events**



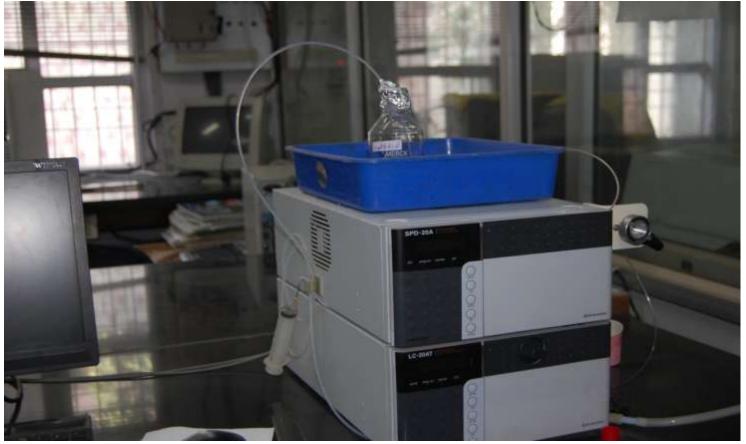
UV-visible Spectrophotometer SHIMADZU- UV 1700



FTIR Spectrophotometer SHIMADZU-8400 S



Atomic Absorption Spectrophotometer SHIMADZU AA- 6300



HPLC System SHIMADZU SPD-20A LC 20-AT



MOU for Climate Studies with Indian Institute of Tropical Meteorology, Pune, Ministry of Earth Sciences, New Delhi



MOU for Climate Studies with Indian Institute of Tropical Meteorology, Pune, Ministry of Earth Sciences, New Delhi



MOU for Climate Studies with Indian Institute of Tropical Meteorology, Pune, Ministry of Earth Sciences, New Delhi



National Awards to College

National Awards

- Only college of M.P. to receive FIST Grant Rs.80.00 Lacs
- Under consideration for Degree Awarding Status by MHRD-UGC (One amongst the 45 Colleges shortlisted in the Country)

National Awards

- Dr. Sanjay Tignath, Prof. Geology: UGC Research Award
- Dr. R. K. Shrivastava
 - ➤ Environmentalist of the year award by National Environmental Science Academy
 - ➤ Name and Biodata appeared in Marquis Who's Who in World

- Very Strong Unit of NCC
 - At least One Cadet being selected for Republic Day Contingent every year
- Excellent Performance in Cultural
 Events in State and National Events
- Young Scientist Awards to several research scholars
- Best poster awards in National and International conferences

Fields in Which Collaboration is Required

- To make college self sufficient for energy needs: Installation of Solar Energy system
- > Green composting technology
- Rain Water harvesting









"Lead College" Designated by Dept. of Higher Education, Govt. of MP To organise sports activities of Jabalpur division





Sports Facilities

- Basketball court
- Two Badminton courts (one wooden court)
- Pavilion
- Lawn Tennis Court
- •All other indoor and outdoor sports facilities are available
- A multistation GYM









Grievance Redress cell: ✓	Placement Cell : 🗸
Non-resident Centre :-	ICT as learning resource: ✓
Any other (specify) IQAC:✓	Vivekanand Carrier Guidance Cell
	:√
Women cell :√	Anti Ragging cell : ✓
ATM in the campus :✓	Photocopy shop :
Separate Staff and students Own water supply for car	
vehicle stand : ✓	
NCC and NSS units :✓	Science club : ✓
Literary Societies :✓	

Museum: Geology





Museum: Zoology





S. No.	Name of Item	Rs. (in lakhs)
1(i)	Library Curating and special treatment of Antique books and Journals	5.00
1(ii)	 Restoration and special treatment for preservation for Specimens in Existing Museum Zoological museum of the college is a matter of pride It houses some animal specimens that are more than 100 year old Collection of rare species such as Dolphin, Ostrich, Sphenodon, Lion-tail monkey, Echidna, Ornithorhynchus, etc. Several invertebrates and vertebrates are preserved Houses many skeletons Some embryos are also preserved 	10.00

S. No.	Name of Item	Rs. (in
		lakhs)
1(iii)	Herbarium	
	Display of plant biodiversity	
	Display of special plant species of this region	
	Display of rare plant species of this region	
		1.00
1(iv)	Scientific instruments in previous years	3.00
	Curating and proper display of information related to them printed on display panels and pamphlets	
1(v)	Live show/film making of Institutional History & others	1.00
1(vi)	Botanical Garden	5.00
	Total Rs. 25.0	0 Lakhs

S. No.	Name of Item	Rs. (in
		lakhs)
2.	Equipments/adoption of new technology for Conservation of rare collection and specimen	20.00
	Total Rs. 20.00 Lakh	
3.	Building Expansion and furnishing for housing heritage resource	
	i) Construction of a new two storied building with plinth area of about 400/m² (First estimate given by PWD PIU 218 Lakhs)	220.00
	ii) Construction of two halls and two rooms on open area in Second floor of main building of the College (First estimate given by PWD 78.19 Lakhs)	80.00
	Total Rs. 30	0 Lakhs

S. No.	Name of Item	Rs. (in lakhs)
4.	Conservation/maintenance of heritage building	
	i) Water proofing of roof tops	15.00
	ii) Scrapping, repairing and painting with water proof enamel on outer walls (first estimate given by PWD Rs. 27.15 Lakhs)	20.00
	iii) Distempering on the inner walls	30.00
	iv) Painting of windows and doors	
	v) Replacement of old electric wiring to prevent line losses and maintain safety norms	30.00
	Total Rs.	75 Lakh

S. No.	Name of Item
5.	Renovation work in the heritage building and other building of the college in the campus including old staff quarters
	Renovation of toilets in college building
	Renovation of boys' hostel (First estimate given by PWD Rs. 8.99 lakhs)
	Renovation of girls' hostel
	Renovation of staff quarters
	Total Rs. 75 Lakhs

S.	Name of Item	Rs. (in
No.		lakhs)
6.	Extension work	5.00
	Sensitization of community and students regarding:	
	 Significance and historic/ cultural implications of heritage structures 	
	 Survey of unidentified heritage sites/ structures 	
	 Documentation of cultural heritage 	
	Study tours, video films, printing of souvenirs, etc.	
	GRAND TOTAL Rs. 5.00	CRORES

The list of some of illustrious alumni of the College.docx



Thank You

Library: Weaknesses

- 1. Difficulty in Maintenance
 - a.Inadequate Staff
 - b.Unavailability of Advanced Software
- 2. SOUL (Software of Universities Libraries) installed but available only for intranet applications
- 3. Radiofrequency Identifier (RFID) not obtained
- 4. Electronic gate not procured

Library: Weaknesses

- 5. Several Loopholes in Library Rules
 - a. Procedural complexity in purchasing
 - b. Impractical rules to write off
 - c. Insufficient provision for book loss
- 6. Scarce funding

Laboratories

Old infrastructure:

Needs thorough renovation of -

- Working tables
- Drainage system
- Water supply
- Electric fittings

Improper safety provisions

Laboratories: Weaknesses

- Difficulty in maintenance of laboratory equipments due to constraints of financial limit
- Difficulty is storage of old non-functional and useless equipments
- Complicated procedure and constraint of financial limit to write off
- Unnecessary occupation of precious space

Laboratories: Weaknesses

Scarcity of technical hands

- Lab attendants
- Lab technicians

Present technical staff

- **→** Untrained
- ➤ Incompetent *Specially* for the latest techniques