Day-6 06.11.2022 Session I & II  
- Crystalline X-Ray radiation of Power diffraction.
  Speaker: Dr. P.D. Sahare, University of Delhi.
- Applications of XRD in material research.
  Speaker: Dr. Shahid Anwar, CSIR, IMMT, Bhubaneswar, Odisha.
- Lab Session 1 Hands on Crystal screening and data collection/Assignment.
- Lab Session 2 Sample analysis of XRD/Assignment.

Day-7 07.11.2022 Session I & II  
- Local Tour.
- Valedictory Session.

### Schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Time</th>
<th>Session I</th>
<th>Session II</th>
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<tbody>
<tr>
<td>DAY-1</td>
<td>01.11.2022</td>
<td>09:00</td>
<td>Registration</td>
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<td>Inaugural Session</td>
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<td>Service II (Hands on)</td>
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Registration & Contact Details

Participants must register and only selected candidates would be invited for the workshop.

For selected candidates TA, (Only Train/Bus tickets), local travel, boarding and lodging will be borne by organisers.

Interested participants should register using the link: [https://forms.gle/yvawrg6tBqYQShR7](https://forms.gle/yvawrg6tBqYQShR7)

Registration Deadline 10.10.2022

Shortlisted candidates will be intimated by email, latest by 15.10.2022

**Eligibility criteria:**

a. Faculty/Scientists/Post-Doc Fellows/Ph.D.

b. Research Fellow minimum qualification: Post Graduate in Science.

c. Not more than 3 participants from one institute.

**For more information**

**Access:**

Website–http://sciencecollegejabalpur.org

E-Mail: rkatare1960@gmail.com

shikhasaxena997@gmail.com

Mobile: 9425153690, 9425325697

**Address:**

GOVT. SCIENCE COLLEGE,

Pachpedi, South Civil Lines

Jabalpur M.P. 482001

**Acknowledgement**
Overview of STUTI & Objectives of Workshop

An initiative to celebrate “Azadi Ka Amrit Mahotsav” and organize a workshop under STUTI Scheme (Synergistic Training Program Utilizing the Scientific & Technological Infrastructure) of DST, which is intended to built human resources and its knowledge capacity through open access S & T Infrastructure across the country.

DST welcomes all dear participants of the workshop on Applications of XRD and FTIR Techniques in Science and Technology. The workshop is aimed to provide an insight into the functioning of Fourier Transform Infra Red spectroscopy (FTIR) and X-Ray Diffraction (XRD) for the understanding of basics of characterization techniques.

The workshop is designed for a balance between theoretical aspects and practical training on these equipments. Emphasis is for hands on training on equipments for demonstration/characterization by each participant.

About the College

Govt. Science College (Autonomous) Jabalpur M.P. is a pioneer educational institution of Central India and has glorious history since 1836. This institution has been renamed as Robertson College in year 1916. Science faculty started in the year 1896 & 2022 is 126th year of science education. The College was affiliated to various Universities in past and finally affiliated to R D University, Jabalpur since 1956. The college was awarded Model status by M.P. Govt. in year 1985, Autonomous status in the year 1988 by U.G.C., Centre of Excellence in Science Education in 2002 by M.P. Govt., CPE status in the year 2004, 2010 & 2015 by UGC. This college was awarded Heritage status in year 2015 by UGC. College was accredited by NAAC in the year 2002, 2011 and in 2019 with 'A' grade in all the three cycles. Recently College has been declared as “Institute for Excellence in Higher Education” by the Department of Higher Education Govt. of M.P.

About the city

Jabalpur, a famous city of central India situated on banks of Holy river 'Narmada'. This city gets it's name from history, being the native land of the great 'Rishi Jabali'. The Great Saint Vinoba Bhave named this city as 'Sanskardhani'. Jabalpur is the Judicial Capital of M.P. along with important defense establishment and defense industries. The city is also known for world famous 'Marble Rocks' and 'Dhuadhar' water fall on the river Narmada at Bhedaghat, a place worth visiting.

Contents of the Workshop

Day-1 01.11.2022  Session I&II
- Inauguration and welcome note.
- Introduction of the participants and Hosts.
- Overview of various DST sponsored program.
- Overview on Basic Crystallography.
  Speaker : Dr. Pankaj Sagdeo Liti, IIT, Indore, M.P.
- Data analysis and processing.
  Speaker : Dr. Archana Sagdeo, RRCAT, Indore, M.P.

Day-2 02.11.2022  Session I&II
- FTIR Spectroscopy and Importance of fingerprint region.
  Speaker : Mr. Bharat Phatak, Lab India, Vadodara, Gujarat
- Elucidation of functionality by IR spectrum. FTIR Analysis.
  Speaker : Mr. Bharat Phatak, Lab India, Vadodara, Gujarat
- Lab Session 1 Mr. Bharat Phatak,
- Lab Session 2 Dr. Mona Markam

Day-3 03.11.2022  Session I&II
- FTIR Spectroscopy.
  Speaker : Dr. Mainak Roy, Chemistry Division, BARC, Mumbai.
- X-Ray Diffraction & Generation.
  Speaker : Dr. S. N. Acharya, NEMS, Chemistry Division, BARC, Mumbai.
- Lab Session 1 Analysis of simple/ complex molecules (IR Technology).
- Lab Session 2 Various sampling techniques in FTIR (IR Technology).

Day-4 04.11.2022  Session I&II
- Analysis of X-Ray Diffraction patterns.
  Speaker : Dr. S.N. Acharya, NEMS, Chemistry Division, BARC, Mumbai.
- Sample preparations and operation of FTIR spectrophotometer and analysis of FTIR spectrum
  Speaker : Dr. Mainak Roy, Chemistry Division, BARC, Mumbai.
- Theory, Principle and Applications of IR Spectroscopy.
  Speaker : Dr. Uday Deshpandey, UGC-DAE CSR, Indore, M.P.
- Lab Session 1 Sample preparations of XRD (IR Technology).
- Lab Session 2 Typical spectrum patterns (IR Technology).

Day-5 05.11.2022  Session I&II
- Field induced phase- transition studies using low temperature and high magnetic field X-Ray.
  Speaker : Dr. N.P. Lalla, UGC-DAE, Indore, MP
- Crystal structure determination and sample analysis.
  Speaker : Dr. Naresh Kumar, MNNIT, Allahabad, U.P.
- Lab Session 1 Hands on single crystal screening & data analysis (Dr. Naresh Kumar).
- Lab Session 2/ Assignment.