

(An Institution of National Importance under MHRD, Government of India)

Selection of Assistant Professors (on Contract) in TEQIP Institutions Schedule for Interview of Assistant Professors (on Contract)

| Sl. No. | Subject/ Discipline | Date of Interview | Time of Reporting | Venue |
|------------|---|----------------------|----------------------|---|
| 1. | Electronics & Instrumentation Engineering/ Electronic Instrumentation & Control Engineering | 11/12/2017 | 8.00 AM | Electrical & Electronics Engg. Department |
| 2. | Mining Engineering | 11/12/2017 | 8.00 AM | Civil Engineering Department |
| 3. | Chemical Engineering/ Petroleum Engineering | 12/12/2017 | 8.00 AM | Chemistry Department |
| 4. | Ceramics | 12/12/2017 | 8.00 AM | Metallurgical Engineering Department |
| 5. | Civil Engineering | 13/12/2017 | 8.00 AM | Civil Engineering |
| 6. | Mechanical Engineering/Automobile Engineering | 13/12/2017 | 8.00 AM | Mechanical Engineering Department |
| 7. | Production Engineering/ Industrial and Production Engineering | 13/12/2017 | 8.00 AM | Manufacturing Engineering Department |
| 8. | Metallurgical Engineering | 13/12/2017 | 8.00 AM | Metallurgical and Materials Engineering Department |
| 9. | Electrical and Electronics Engineering/ Electrical Engineering | 14/12/2017 | 8.00 AM | Electrical & Electronics Engg Department |
| 10. | Electronics and Tele communication Engineering/ Electronics Engineering | 14/12/2017 | 8.00 AM | Electronics and Communication Engineering Department |
| 11. | Computer Science/Tech Engineering & Information Technology | 14/12/2017 | 8.00 AM | Computer Science and Engineering Department |
| 12. | Physics | 15/12/2017 | 8.00 AM | Physics Department |
| 13. | Chemistry | 15/12/2017 | 8.00 AM | Chemistry Department |
| 14. | Mathematics | 15/12/2017 | 8.00 AM | Mathematics Department |
| 15. | Geology | 15/12/2017 | 8.00 AM | Metallurgical and Materials Engineering Department |
| 16. | English | 15/12/2017 | 8.00 AM | Humanities & Social Sciences Department |

(Dr. A.K. Choudhary) Coordinator, TEQIP-III



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Selection of Assistant Professors (on Contract) in TEQIP Institutions

INSTRUCTION TO CANDIDATES

Candidates are advised to report at the concerned Departments of NIT Jamshedpur at the time and date given in schedule.

- 1. The candidate must produce all the original certificates in respect of educational qualification (UG, PG, Ph.D), proof for age (school leaving or 10th standard certificate), GATE score, NET/SET, relevant experience, Aadhar card, PAN card etc. for verification.
- 2. Candidates coming without original certificates will not be permitted for appearing in the interview.
- 3. Candidates are advised to take printout of (PDF) applications filled-in along with self-attested copies of original certificates.
- 4. No TA/DA is admissible to the candidates for appearing in the interview.
- 5. For teaching demonstration candidate shall choose a topic among the pool of topics available in the NIT Jamshedpur website: www.nitjsr.ac.in and make a presentation for 15 minutes. The selection committee will assess each candidate for the following:
 - i. Content of presentation/demonstration
 - ii. Teaching skills
 - iii. Depth of subject knowledge
 - iv. Responsiveness & overall Impact

6. HOW TO REACH NIT JAMSHEDPUR?

The railway station of Jamshedpur is known as Tatanagar Junction. It is well connected directly to all the major cities of India. It is also well connected to National Highway (NH 32 & 33). The distance from TATA Railway. Station to NIT Campus is around 15km and the travel time by Auto/Taxi is about 20 minutes.

(Dr. A.K. Choudhary) Coordinator, TEQIP-III



(An Institution of National Importance under MHRD, Government of India)

Department of Electrical and Electronics Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Electronics & Instrumentation Engineering/

Electronic Instrumentation & Control Engineering.

Date: 11/12/2017 Time of Reporting: 8:00 AM

Venue: Electrical & Electronics Engg Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Electrical quantities measuring instruments |
| 2. | Analytical instruments |
| 3. | Transducers and Modern Sensors |
| 4. | Data transmission and Telemetry |
| 5. | Data acquisition systems |
| 6. | Bio-medical instrumentation |
| 7. | Optical instrumentation |
| 8. | wireless sensor networks |
| 9. | Microprocessor |
| 10. | Computer based instrumentation systems |

- 1. Dr. Niranjan Kumar, E-Mail: nkumar.ee@nitjsr.ac.in, Mob: 8002857194
- 2. Dr. Ch. M.S. Rao, E-Mail: madhu_chintalacheruvu@yahoo.co.in , Mob: 7870344602



(An Institution of National Importance under MHRD, Government of India)

Department of Civil Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Mining Engineering

Venue: Civil Engineering Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|--|
| 1. | Handling of misfires in mines |
| 2. | Ground control in open pit mines |
| 3. | Mine planning and scheduling – smart practices |
| 4. | Blast fragmentation appraisal-means to improve cost effectiveness in mines |
| 5. | Challenges in mine planning and scheduling |
| 6. | Rock breakage and blast design considerations in open pit |
| 7. | Factors in controlling drilling and blasting costs in mines |
| 8. | Application of air-deck technique in surface blasting |
| 9. | Mining and workplace safety |
| 10. | Explosives and blasting in underground coal mines |

- 1. Dr. Prahlad Prasad, E-Mail:ppdnitjsr@gmail.com, Mob: 9430335621
- 2. Dr. Ch. M.S. Rao, E-Mail: madhu_chintalacheruvu@yahoo.co.in , Mob: 7870344602



(An Institution of National Importance under MHRD, Government of India)

Department of Chemistry

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Chemical Engineering/ Petroleum Engineering

Venue: Chemistry Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Microbial Enhanced Oil Recovery (MEOR) |
| 2. | Nano biomaterials for Biosensing |
| 3. | Polymer Processing |
| 4. | Safety in the Chemical Process Industry |
| 5. | Natural and Fabricated Nano Biomaterials |
| 6. | Environmental Application of Supercritical Fluid Technology |
| 7. | Modern catalytic cracking process |
| 8. | Biomass for Carbon Sequestration |
| 9. | Advances in Mass transfer or separation process |
| 10. | Advances in catalysis |

- 1. Dr. Dr. S. K. Prasad, E-mail: hod.chem@nitjsr.ac.in, Mob: 9006932214
- 2. Dr. Ch. M.S. Rao, E-Mail: madhu_chintalacheruvu@yahoo.co.in , Mob: 7870344602



(An Institution of National Importance under MHRD, Government of India)

Department of Metallurgy and Materials Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Ceramic Engineering

Venue: Metallurgical Engineering Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Introduction to Ceramics |
| 2. | Dense ceramic Membrane-Based technology |
| 3. | Structural & Advanced Ceramics |
| 4. | Ceramic Processing |
| 5. | Bio-ceramics |
| 6. | Ceramic raw materials |
| 7. | Ceramic coatings |
| 8. | Glass-Ceramics |
| 9. | Ceramic composites |
| 10. | Applications of ceramics |

- 1. Dr. Ashok Kumar Email: akumar.met@nitjsr.ac.in Mobile number: 9470525571
- 2. Dr. Ch. M.S. Rao, E-Mail: madhu_chintalacheruvu@yahoo.co.in , Mob: 7870344602



(An Institution of National Importance under MHRD, Government of India)

Department of Civil Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Civil Engineering

Venue: Civil Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|--|
| 1. | Water Resources planning and management |
| 2. | Watershed conservation and management |
| 3. | Foundation of Tall structures (TV Tower, Telecommunications towers) as per Indian Standards. |
| 4. | Reinforced Earth and its applications. |
| 5. | Expressway and Intelligent Roads |
| 6. | Anti-seepage Elements of Active Protection and Passive Protection |
| 7. | Environmental Impact Assessment and Auditing |
| 8. | Green Infrastructure and Planning |
| 9. | Utilisation of Industrial waste in construction industry |
| 10. | Disaster management in Civil Engineering |

Contact person:

1. Dr. B.K.Prasad, Email: hod.civil@nitjsr.ac.in, Mob: 9430338986



(An Institution of National Importance under MHRD, Government of India)

Department of Mechanical Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Mechanical Engineering/Automobile Engineering

Venue: Mechanical Engineering Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|--|
| 1. | Steady Flow Energy Equation/Laws of Thermodynamics/I.C. Engines/Vapour |
| | Power Cycle |
| 2. | Heat transfer through fins, Composite structure/Convective heat transfer through |
| | tubes, ducts /Radiation exchange between two gray bodies. |
| 3. | Bukingham's Pie theorem/Momentum equation and its applications/Boundary layer |
| | theorem. |
| 4. | Refrigeration cycle/Computational Fluid Dynamics |
| 5. | Power transmission system/Braking system/cooling/Fuel Supply |
| | system/Performance Curves for Vehicles. |
| 6. | Projection of solids/Design of joints/CAD-CAM/Design of coupling, belts, |
| | flywheels. |
| 7. | Moderns boilers/Steam and Gas turbine/fuels for future automobiles. |
| 8. | TQM/TPM/Inventory Control/Time and motion study/Quality circles/PERT & |
| | CPM/ Brake even analysis / Linear Programming. |
| 9. | Fuels for rocket engine/aerodynamics of wings |
| 10. | Casting/welding/Machining/Power metallurgy |

Contact person:

1. Dr.(Mrs.) Prabha Chand, E-Mail: pchand.me@nitjsr.ac.in Mob: 7903825868



(An Institution of National Importance under MHRD, Government of India)

Department of Manufacturing Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Production Engineering/ Industrial and Production Engineering

Venue: Manufacturing Engineering Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|--|
| 1. | Toyota production System |
| 2. | Supply Chain Management |
| 3. | Computer Integrated Manufacturing |
| 4. | Computer Aided Technology in Manufacturing |
| 5. | Rapid Engg and Rapid Production with CAD application |
| 6. | Manufacturing Planning and Control |
| 7. | Manufacturing Management |
| 8. | Manufacturing Excellence / World class Manufacturing |
| 9. | Manufacturing Systems Engineering |
| 10. | Flexible Manufacturing system |

- 1. Dr. Amaresh Kumar, E-Mail: akumar.prod@nitjsr.ac.in, Mob: 9431186594
- 2. Dr. Ch. M.S. Rao, E-Mail: madhu_chintalacheruvu@yahoo.co.in , Mob: 7870344602



(An Institution of National Importance under MHRD, Government of India)

Department of Metallurgical and Materials Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Metallurigical Engineering

Venue: Metallurgical and Materials Engineering Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|--------------------------------------|
| 1. | Mechanical Metallurgy |
| 2. | Casting Technology |
| 3. | Raw Materials for Iron Making |
| 4. | Agglomeration of Iron Ore Fines |
| 5. | Mineral Beneficiation of Ores |
| 6. | Non Ferrous Metal Production |
| 7. | Powder Metallurgy |
| 8. | Welding Technology |
| 9. | Non Destructive Testing of Materials |
| 10. | Secondary Steel making |

Contact person:

1. Dr. Ranjit Prasad, E-Mail: ranjitnitj@gmail.com, Mob: 8210572353



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Department of Electrical and Electronics Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Electrical and Electronics Engineering/ Electrical Engineering

Venue: Electrical & Electronics Engg Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Relay |
| 2. | Differential Protection |
| 3. | Equal Area Stability Criteria |
| 4. | DC Transient of R-L, R-C circuits |
| 5. | Transformer |
| 6. | Single phase Induction Motor |
| 7. | Power Semiconductor Devices |
| 8. | Inverters |
| 9. | Stability analysis and Root-locus technique |
| 10. | State space analysis |

- 1. Dr. Niranjan Kumar, E-Mail: nkumar.ee@nitjsr.ac.in, Mob: 8002857194
- 2. Dr. Ch. M.S. Rao, E-Mail: madhu_chintalacheruvu@yahoo.co.in , Mob: 7870344602



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Department of Electronics and Communication Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Electronics and Tele communication Engineering/ Electronics Engineering

Date: 14/12/2017 Time of Reporting: 8:00 AM

Venue: Electronics and Communication Engineering Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Operational Amplifiers |
| 2. | CMOS Scaling |
| 3. | Interfacing with the analog world |
| 4. | Digital Filter Design |
| 5. | An overview on recent advancements in communication network |
| 6. | Application of microwave in communication engineering |
| 7. | Application of choppers in drives |
| 8. | Digital Modulation Techniques |
| 9. | Advent of VoIP |
| 10. | Registers and Counters |

- 1. Dr. Rashmi Sinha E-Mail: rsinha.ece@nitjsr.ac.in, Mob: 9431301154
- 2. Dr. Ch. M.S. Rao, E-Mail: madhu_chintalacheruvu@yahoo.co.in , Mob: 7870344602



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Department of Computer Science and Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Computer Science/Tech Engineering & Information Technology

Date: 14/12/2017 Time of Reporting: 8:00 AM

Venue: Computer Science and Engineering Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|--|
| 1. | Computer Algorithms and Data Structures |
| 2. | Theory of Computations |
| 3. | Computer Architecture |
| 4. | Microprocessors and Microcontrollers |
| 5. | Operating Systems |
| 6. | Software Engineering |
| 7. | Computer Networks |
| 8. | Database Management Systems |
| 9. | High Performance Computing |
| 10. | Digital Image Processing, Computer Vision and Object Detection |

Contact person:

1. Dr. B. K. SINGH, E-Mail: hod.cse@nitjsr.ac.in, Mob: 9431150616



(An Institution of National Importance under MHRD, Government of India)

Department of Department of Physics

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Physics

Venue: Physics Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Group theory |
| 2. | Central force |
| 3. | Special theory of Relativity |
| 4. | Maxwell's equations |
| 5. | Multipole radiation |
| 6. | Applications of nanomaterials |
| 7. | Photovoltaic solar cells |
| 8. | Fundamentals of lasers and their applications |
| 9. | Holography and its applications |
| 10. | Fiber optical communications |

Contact person:

1. Dr. H. L. Yadav, E-Mail: hod.phy@nitjsr.ac.in, Mob: 9430308658



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Department of Chemistry

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Chemistry

Venue: Chemistry Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Mechanism of organic reactions |
| 2. | Pericyclic reactions |
| 3. | Chemistry of natural products |
| 4. | Transition elements & Inner transition elements |
| 5. | Chemical thermodynamics |
| 6. | Electrochemistry |
| 7. | Chemical kinetics |
| 8. | Colloids and surfaces |
| 9. | Water treatment and environmental chemistry |
| 10. | Polymer chemistry |

Contact person:

1. Dr. Dr. S. K. Prasad, E-Mail: hod.chem@nitjsr.ac.in, Mob: 9006932214



(An Institution of National Importance under MHRD, Government of India)

Department of Mathematics

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Mathematics

Venue: Mathematics Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|------------------------------------|
| 1. | Differential Equations |
| 2. | Partial Differential Equations |
| 3. | Integral Transform |
| 4. | Linear Algebra |
| 5. | Statistics |
| 6. | Fluid dynamics |
| 7. | Numerical Analysis |
| 8. | Complex Analysis |
| 9. | Differential and Integral Calculus |
| 10. | Special Functions |

Contact person:

1. Dr. Dr. Ramayan Singh, E-Mail: rsingh.math@nitjsr.ac.in, Mob: 9430304200



(An Institution of National Importance under MHRD, Government of India)

Department of Metallurgical and Materials Engineering

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: Geology

Venue: Metallurgical and Materials Engineering Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Importance of Cleavages and Schistocity in Structural Geology. |
| 2. | The Role of Plate Tectonics in Himalayan Orogeny. |
| 3. | Role of Geostatistics in Mineral Reserve Estimation. |
| 4. | Different Modes of Computer Programming and Their Utility In Applied Geology. |
| 5. | Hydrocarbon; Occurrences In India, Compare It With Other Parts Of The World. |
| 6. | Electron Microscopy and Its Mineralogical Applications |
| 7. | Mechanics of landslides. |
| 8. | Project plan for the development of Iron Ore Belt of Singhbhum. |
| 9. | Control measures of underground water problems in hilly terrain of india. |
| 10. | Geological factors responsible for formation of ores |

- 1. Dr. Ranjit Prasad, E-Mail: ranjitnitj@gmail.com, Mob: 8210572353
- 2. Dr. Ch. M.S. Rao, E-Mail: madhu_chintalacheruvu@yahoo.co.in , Mob: 7870344602



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Department of Humanities, Social Sc. And Managements

TEQIP-III Project: Selection of Assistant Professors (on Contract) in TEQIP Institutions

Name of the Interview Centre: NIT, Jamshedpur, Jharkhand-831014

Subject/ Discipline: English

Venue: HSS Department

LIST OF TOPICS FOR PPT. PRESENTATION BY CANDIDATES

| S. No | Topic/ Area |
|-------|---|
| 1. | Learning Language through Literature |
| 2. | Mother Tongue Interference in Language Learning |
| 3. | Importance of Soft Skills |
| 4. | The Role of Nonverbal cues in Communication |
| 5. | Literature as a Social Messenger |
| 6. | The Social Realism of Aravind Adiga and Arundhati Roy |
| 7. | The Literature of the Partition |
| 8. | Feminism and Literature |
| 9. | The Impact of Science Fiction |
| 10. | The Rise of Popular Fiction |

Contact person:

1. Dr. Maninder Kapoor, E-Mail: maninder.kapoor08@gmail.com, Mob: 7209805149