			different nano-materials used for drug delivery 3. **Nanotechnology for diagnostics:** Optical diagnostics, Fabrication of electrodes, Applications of Biosensor, role of nanomaterials and nanostructures in the enhancement of sensitivity 4. **Light induced nanostructures:** Light induced nanostructures formation and their biomedical applications 5. **Biosynthesis of nanoparticles:** Molecular machinery of biosynthesis of metal Nanoparticles by microorganisms and their use. Green biosynthesis of nanoparticle and sustainable development. Bio-Inspired nanotechnology and its importance.

11. SCHOOL OF SANSKRIT AND INDIC STUDIES

The pattern of JNUEE 2022-23 will be based on Multiple Choice Questions (MCQs) through Computer Based Test (CBT)

Ph.D.

Sl. No.	Name of School	Sub. Code & Sub. Code Number	Syllabus for Entrance Examination
1	School of Sanskrit and Indic Studies (SSIS)	Sanskrit Studies – SANH (906)	**Syllabus:** The test will cover the following areas: Indian Philosophical Systems; Traditions of Yoga & Sādhanā, Sanskrit literature and Poetics; Sanskrit Grammar and Grammatical Theory; Modes of Disputation and Interpretation of Texts; Sanskrit Linguistics including Computational Linguistics; Vedic, Agamic and Purānic Studies; Pali and Prakrit Studies; Indian Social Thought, Religious Studies; Sanskrit Manuscriptology; Issues in Sanskrit Studies and Researches; Research Methodology & Research Aptitude.

12. School of Engineering

The pattern of JNUEE 2022-23 will be based on Multiple Choice Questions (MCQs) through Computer Based Test (CBT)

S. No	Program	Branch	Syllabus
1.	Ph.D.	Computer Science and Engineering	**Syllabus:** 50% of the questions will be from research methodology and remaining 50% from bachelor's/master's level computer science engineering **Research Methodology:** Experimental design; fundamentals of sampling; data types, quality measurement; processing and analysis of data; hypothesis testing (parametric, nonparametric), theory of probability. **Computer Science:** Engineering mathematics, Digital logic, Computer organisation and architecture, Programming and data structure, Algorithms, Theory of computation, Compiler design, Operating system, Database, Computer networks.
2.	Ph.D.	Electronics and Communication Engineering	**Syllabus:** 50% of the questions will be from research methodology and remaining 50% from bachelor's/master's level electronics and communication engineering **Research Methodology:** Experimental design; fundamentals of sampling; data types, quality measurement; processing and analysis of data; hypothesis testing (parametric, nonparametric), theory of probability. **Electronics and Communication:** Engineering mathematics, Networks, Signal and systems, Electronic device, Analog circuits, Digital circuit, Control systems, Communications, Electromagnetics