



**Birla Institute of Technology & Science, Pilani**  
Pilani | Dubai | Goa | Hyderabad

# PhD Qualifying Areas

**Academic Research (Ph. D. Programme) Division**

Birla Institute of Technology and Science, Pilani

Aug 2014

## Ph D Qualifying subareas of all departments

Department	Ph D QE subarea
Biological Sciences	<ol style="list-style-type: none"> <li>1. Environmental and Microbial Biotechnology</li> <li>2. Parasitology and Vector Biology</li> <li>3. Bioinformatics and Computational Biology</li> <li>4. Plant Biotechnology</li> <li>5. Cancer Biology and Chronic Diseases</li> <li>6. Biochemistry &amp; Biophysics</li> <li>7. Molecular Biology &amp; Immunology</li> <li>8. Animal Biotechnology</li> </ol>
Chemical Engineering	<ol style="list-style-type: none"> <li>1. Transport Phenomena &amp; Separation Processes</li> <li>2. Chemical Reaction Engineering &amp; Thermodynamics</li> <li>3. Material Science and Engineering</li> <li>4. Environmental Engineering</li> <li>5. Energy and Process System Engineering</li> <li>6. Petroleum and Petrochemical Engineering</li> <li>7. Biochemical Engineering</li> </ol>
CS/IS	<ol style="list-style-type: none"> <li>1. AI, Machine Learning &amp; Data Mining</li> <li>2. Computer Architecture, Embedded Systems &amp; Robotics</li> <li>3. Databases &amp; Data Warehousing</li> <li>4. High Performance &amp; Distributed Computing</li> <li>5. Image Processing &amp; Multimedia</li> <li>6. Networking &amp; Mobile Computing</li> <li>7. Algorithms Theoretical Computer Science</li> </ol>
Management	<ol style="list-style-type: none"> <li>1. Finance &amp; Accounting</li> <li>2. Marketing</li> <li>3. Organizational Behavior &amp; Human Resource Management</li> <li>4. Operations Management &amp; Decision Science</li> <li>5. Information Technology &amp; Technology Management</li> <li>6. Strategy &amp; Entrepreneurship</li> </ol>
Mechanical	<ol style="list-style-type: none"> <li>1. Design engineering</li> <li>2. Thermal engineering</li> <li>3. Fluid engineering</li> <li>4. Manufacturing engineering &amp; management</li> <li>5. Material science and engineering</li> <li>6. Industrial engineering and management</li> <li>7. Computer aided engineering</li> </ol>
Humanities & Social Sciences	<ol style="list-style-type: none"> <li>1. Cultural Studies: Media and Communication, Film, Theatre</li> <li>2. English Language and Literature</li> <li>3. Philosophy: Indian Philosophy and Ethics</li> <li>4. Education</li> <li>5. History and Politics</li> <li>6. Psychology: Research Methodology, Positive Psychology</li> <li>7. Public Administration and Development Studies</li> <li>8. Environment Studies</li> </ol>
Pharmacy	<ol style="list-style-type: none"> <li>1. Pharmaceuticals and Pharmacokinetics</li> <li>2. Pharmaceutical Chemistry, Natural Drugs and Phyto-Chemistry</li> <li>3. Pharmacology and Toxicology</li> <li>4. Pharmaceutical Analysis and Quality Assurance</li> <li>5. Clinical Research and Clinical Pharmacy</li> </ol>

	6. Pharmaceutical Biotechnology
Physics	<ol style="list-style-type: none"> <li>1. Astrophysics &amp; Cosmology</li> <li>2. Condensed matter physics</li> <li>3. Nonlinear science and Complex systems</li> <li>4. Nuclear &amp; High energy physics</li> <li>5. Optics &amp; spectroscopy</li> <li>6. Quantum physics</li> <li>7. Semiconductor physics</li> <li>8. Theoretical Physics</li> </ol>
Eco & Fin	<ol style="list-style-type: none"> <li>1. Macroeconomics</li> <li>2. Microeconomics and Industrial Economics</li> <li>3. Public Finance and Policy.</li> <li>4. International Economics</li> <li>5. Applied Econometrics and Quantitative Techniques in Economics and Finance.</li> <li>6. Corporate Finance</li> <li>7. Investment Analysis and Management</li> <li>8. Financial Economics and Financial Engineering.</li> </ol>
Chemistry	<ol style="list-style-type: none"> <li>1. Organic Chemistry</li> <li>2. Inorganic Chemistry</li> <li>3. Physical Chemistry</li> <li>4. Analytical Chemistry</li> <li>5. Theoretical and Computational Chemistry</li> </ol>
Maths	<ol style="list-style-type: none"> <li>1. Algebra</li> <li>2. Differential Equations</li> <li>3. Discrete Mathematics</li> <li>4. Applied Statistics</li> <li>5. Operations Research</li> <li>6. Numerical Methods and Applications</li> <li>7. Cosmology and Relativity</li> </ol>
Civil	<ol style="list-style-type: none"> <li>1. Structural Engineering</li> <li>2. Transportation Engineering</li> <li>3. Environmental Engineering</li> <li>4. Water Resources Engineering</li> <li>5. Geotechnical Engineering</li> <li>6. Geomatics Engineering</li> <li>7. Infrastructure Planning &amp; Design</li> <li>8. Applied Mechanics</li> </ol>
EEE & Instru.	<ol style="list-style-type: none"> <li>1. Instrumentation &amp; Control</li> <li>2. Communication Engg, networks</li> <li>3. RF, Microwave, Antenna design &amp; Wireless systems</li> <li>4. Power systems &amp; Electrical Engineering, Renewable energy, smart grids.</li> <li>5. Power electronics and drives</li> <li>6. Embedded systems</li> <li>7. Micro/Nano electronics</li> <li>8. Electronic materials, Devices and technology</li> <li>9. Digital Signal processing</li> </ol>