



ATAL Faculty Development Program

THRUST AREAS



ATAL



TECHNICAL FDPs-

A. EMERGING AREAS

1. Artificial Intelligence
2. Internet of Things (IoT)
3. Block chain
4. Machine Learning
5. Robotics
6. Quantum Computing
7. Data Sciences
8. Cyber Security
9. 3D Printing and Design
10. Augmented Reality (AR)/ Virtual Reality (VR)
11. Drones
12. Industry 4.0/5.0
13. 5- Generation Mobile Networks
14. Energy Storage
15. Magnetic Levitation
16. Photonics, low cost desalination, opto-genetics
17. Wearable Devices
18. Gamification
19. Telemedicine
20. Molecular Manufacturing
21. Alternate Fuels
22. Real Time Translation
23. Synthetic Biology
24. Bio-mimetics
25. Novel Materials
26. Lab on Chip
27. Cloud Technology
28. Digital Holography & 3D Imaging
29. Immersive Virtual Reality
10. GIS; Remote Sensing
11. Construction Technology
12. Engineering Law
13. Climate Sciences
14. Mining; Mineral Processing
15. Underground Space Utilization
16. Bio Similar Technology
17. Genome Engineering; Technology
18. Precision Health Technology
19. Control Systems; Sensors Technology
20. Infrastructure Engineering
21. Environmental Geo-technology
22. Earthquake Engineering
23. Waterways Transport Engineering
24. Lean Construction Technology
25. Aqua-food technology
26. Organ Printing Technology
27. Nutrition Technology
28. Drug Engineering
29. Cellular Agriculture
30. Sensors Technology
31. Electric Vehicles
32. Energy Storage
33. Magnetic Levitation
34. Photonics
35. Low cost desalination
36. Ontogenetic
37. Wearable Devices
38. Gamification
39. Telemedicine
40. Molecular Manufacturing
41. Alternate Fuels
42. Real Time Translation
43. Biotechnology
44. Biomimetic
45. Novel Materials
46. Lab on Chip
47. Cloud Technology
48. Digital Holography & 3D Imaging
49. Immersive Virtual Reality
50. Human Centre Computing
51. Design Thinking

B. CORE AREAS

1. Engineering

1. Systems Engineering
2. Sustainability Engineering
3. Computer Science; Biology
4. Energy Engineering
5. Green Technology
6. Electrical; Computer Engineering
7. Strategic Civil Infrastructure
8. Coastal; Offshore Engineering
9. Smart Cities

52. Lab/Incubators/Prototype Lab, 3D Printers for Prototyping of student ideas) Consulting
53. Mining and Data analytics
54. Fog Computing
55. Digital Forensics
56. Digital Currency
57. Waste Management Technology

2. Management

1. Technology Management
2. Business Analytics
3. Six Sigma in Quality Management
4. Engineering Management
5. Innovation Management
6. Supply Chain Resilience
7. Heritage Management
8. Project Management
9. Operations Management
10. Organizational Behavior
11. Strategic Planning
12. Management Information System
13. Social Enterprise Management
14. Talent Management
15. Risk Management

3. Arts & Craft

1. Sculpture
2. Animation
3. Ceramics
4. Metal Craft
5. Photography
6. Visual Communication
7. Communication Design
8. Illustration
9. Painting
10. Mural

4. Design & Media

1. Animation Film Design
2. Apparel Design
3. Ceramic; Glass Design
4. Design for Retail Experience
5. Digital Game Design
6. Film and Video Communication
7. Furniture and Interior Design
8. Graphic Design
9. Information Design
10. Interaction Design
11. Lifestyle Accessory Design
12. New Media Design
13. Photography Design
14. Product Design
15. Textile Design
16. Toy; Game Design
17. Transportation; Automobile Design
18. Universal Design
19. Fashion Communication
20. Design thinking

5. Life Skills Management

1. Productivity Enhancement
2. Capacity Building
3. Leadership Excellence
4. Emotional Intelligence
5. Team-building and Coordination
6. Perception & Decision Making
7. Training for Social Connectedness and Inspiration
8. Personal Effectiveness
9. Stress Management
10. ROAD - Response Effectiveness, Organizing Self, Attitudinal Shift, Decision Making
11. Developing Consciousness (Yoga and Meditation)
12. Problem Solving
13. Execution Planning
14. Execution implementation
15. Impact of social media

16. Comparative/Transcultural Linguistics
17. Human value ethics
18. Health and Happiness
19. Competency Mapping

6. NEP 2020 Implementation (New!)

1. Leadership FDP:
 - I. Sustainable Change Management
 - II. U.S Baldrige Education Performance Excellence Framework
 - III. Community Service Importance
2. Project Management
3. Risk Management
4. Soft Skills Excellence:
 - I. Leadership Excellence
 - II. Effective Decision Making
 - III. Effective Time management
 - IV. Effective Teamwork
 - V. Effective Project Management
5. NEP 2020 Implementation - Sharing Successes and Failures

7. Mechanical Engineering

1. Machining & Micro Machining Processor
2. Simulation technique
3. Digital Manufacturing technology
4. Precision manufacturing
5. Robotic Process automation

8. Civil Engineering

1. Sustainable construction technology
2. Automation in civil engineering
3. Ground Improvement techniques
4. Numerical Modelling & soil structure interaction
5. Geotechnical earthquake Eng.

7. Electronics Engineering

1. Satellite Navigation system
2. Speech signal processing
3. Micro electronics
4. Optical communication
5. Cognitive Sensor Network
6. Nano Technology, materials & science
7. Sensor network for agriculture management
8. Clean Eng. Materials

C. PM GATI SHAKTI

1. Agri-Food Supply Chain Management
2. Transportation and Logistics Industry
3. Financial Aspects in Supply Chain Management
4. Digital Supply Chain
5. IT and Digital Innovations in Supply Chains
6. Health Care Supply Chain
7. Retail Supply Chain Management
8. Logistic Regulations and Compliances
9. Strategic Management in Rail/Road Transportation System

D. SEMICONDUCTOR DESIGN AND DEVELOPMENT

1. Emerging topics under Semiconductor design and development

E. THROUGH IDEA LABS

1. Any topic under emerging areas wherein the practical sessions/hands-on-training could be imparted through AICTE IDEA Labs (Only institutions holding AICTE IDEA Labs can apply under this category).

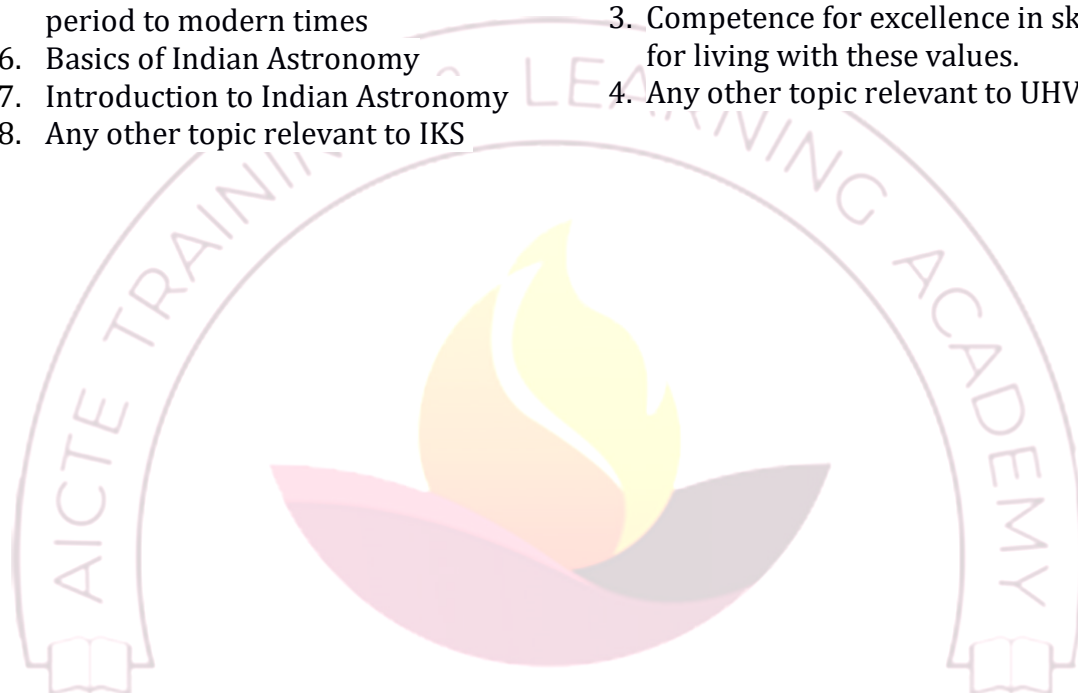
NON-TECHNICAL FDPs

A. Indian Knowledge Systems

1. Indian Science and Technology
2. Chemistry and Metallurgy
3. Indian Economics and Business Model
4. Ancient Indian Art and Architecture
5. Mathematics in India: from Vedic period to modern times
6. Basics of Indian Astronomy
7. Introduction to Indian Astronomy
8. Any other topic relevant to IKS

B. Universal Human Values

1. Development of a holistic and humane world-vision.
2. Clarity and development of universal human values based on world-vision.
3. Competence for excellence in skills for living with these values.
4. Any other topic relevant to UHV



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