

**Dr. Dhirendra Pratap Singh**  
**Associate Professor**  
**Computer Science and Engineering Department**  
**Maulana Azad National Institute of Technology, Bhopal(M.P.), India**

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<b>Phone</b>	(O) 1 <sup>st</sup> Floor, B-Block, CSE Department, MANIT Bhopal (M.P.)
<b>E-mail</b>	+91-755-4051320, 7415660029  dpsingh[at]manit[dot]ac[dot]in; dpsingh.manit[at]gmail[dot]com
<b>Date of Birth</b>	16/07/1982
<b>Educational Qualification</b>	PhD (CSE), MANIT Bhopal (M.P.) - Feb. 2015  M.Tech. IT (Intelligent Systems), IIIT Allahabad (U.P.) - 2007  BE(CSE), NIT Raipur (C.G.)- 2004
<b>Experience</b>	18 years (Teaching, Research and IT Industry)
<b>Specialization</b>	Machine Learning, Image Processing and GIS, Parallel Algorithms
<b>Awards and Honours</b>	<ol style="list-style-type: none"> <li>Member of Board of Governs, MANIT Bhopal. (July 2020- June 2022).</li> <li>Class 10<sup>th</sup> Merit Certificate with M. P. State Rank 38 (1997).</li> <li>Class 12<sup>th</sup> Merit Certificate with M. P. State Rank 46 (1999).</li> <li>Excellence Employee Award 2008 NIIT Tech. Ltd.</li> <li>US BU Mercury Award in NIIT Tech. Ltd. 2008.</li> <li>GATE 2005- AIR-526</li> <li>IEEE Senior Member.</li> </ol>
<b>Publication</b>	<p><b>International Journal Publications:</b></p> <ol style="list-style-type: none"> <li>Mohit Kushwaha, Jaytrilok Choudhary and Dhirendra Pratap Singh, “3DPSR: An innovative approach for pose and shape refinement in 3D human meshes from a single 2D image”, Image and Vision Computing. Volume 152, 2024, 105311, ISSN 0262-8856, <a href="https://doi.org/10.1016/j.imavis.2024.105311">https://doi.org/10.1016/j.imavis.2024.105311</a> (SCIE)</li> <li>Mohit Kushwaha, Jaytrilok Choudhary, Dhirendra Pratap Singh, “3DPMesh: An enhanced and novel approach for the reconstruction of 3D human meshes from a single 2D image”, Computers &amp; Graphics, Volume 119, 2024, 103894, ISSN 0097-8493, <a href="https://doi.org/10.1016/j.cag.2024.103894">https://doi.org/10.1016/j.cag.2024.103894</a> (SCIE)</li> <li>Vandana Shakya, Jaytrilok Choudhary, and Dhirendra Pratap Singh,</li> </ol>

- “An advanced actor critic deep reinforcement learning technique for gamification of WiFi environment”. *Wireless Network* (2023). <https://doi.org/10.1007/s11276-023-03582-4> (SCIE).
4. Vandana Shakya, Jaytrilok Choudhary, and Dhirendra Pratap Singh, “IRADA: integrated reinforcement learning and deep learning algorithm for attack detection in wireless sensor networks”, *Multimedia Tools and Applications*, 83, 71559–71578 (2024). <https://doi.org/10.1007/s11042-024-18289-7> (SCIE)
  5. Gaurav Jain, **Dhirendra Pratap Singh** and Jaytrilok Choudhary, “Flynet–Neural Network Model for Automatic Building Detection from Satellite Images”. *J Indian Soc Remote Sens* 51, 1441–1456 (2023). <https://doi.org/10.1007/s12524-023-01703-2> (SCIE)
  6. Nikhil Nigam , **Dhirendra Pratap Singh**, and Jaytrilok Choudhary, “A Review of Different Components of the Intelligent Traffic Management System (ITMS)”. *Symmetry* 2023, 15, 583. <https://doi.org/10.3390/sym15030583> (SCIE)
  7. Mohit Kushaha, Jaytrilok Choudhary and **Dhirendra Pratap Singh** “Enhancement of human 3D pose estimation using a novel concept of depth prediction with pose alignment from a single 2D image”, *Computers & Graphics Gupta* (2022) (SCIE)
  8. Sumit Gupta and **Dhirendra Pratap Singh**, “Seed Community Identification Framework for Community Detection over Social Media”. *Arab J Sci Eng* (2022). <https://doi.org/10.1007/s13369-022-07020-z>. (SCIE)
  9. Sumit Gupta, **Dhirendra Pratap Singh** and Jaytrilok Choudhary, “A review of clique-based overlapping community detection algorithms”. *Knowl Inf Syst* (2022). <https://doi.org/10.1007/s10115-022-01704-6>. (SCIE)
  10. Shailesh Kumar Thakur, **Dhirendra Pratap Singh**, and Jaytrilok Choudhary. "Lung cancer identification: a review on detection and classification." *Cancer Metastasis Rev* 39, 989–998 (2020). <https://doi.org/10.1007/s10555-020-09901-x> (SCIE)
  11. Sumit Gupta, and **Dhirendra Pratap Singh**. "Recent trends on community detection algorithms: A survey." *Modern Physics Letters B* Vol. 34, No. 35, 2050408 (2020). <https://doi.org/10.1142/S0217984920504084> .(SCIE)
  12. **Dhirendra Pratap Singh**, Ishan Joshi and Jaytrilok Choudhary. "Survey of GPU based sorting algorithms." *International Journal of Parallel Programming* 46, 1017–1034 (2018). <https://doi.org/10.1007/s10766-017-0502-5> .(SCIE)
  13. **Dhirendra Pratap Singh**, and Nilay Khare. "Parallel batch dynamic single source shortest path algorithm and its implementation on GPU based machine." *Int. Arab J. Inf. Technol.* 16, no. 2 (2019): 217-225.

	.(SCIE)
14.	Choudhary, Jaytrilok, Deepak Singh Tomar, and <b>Dhirendra Pratap Singh</b> . "An Efficient Hybrid User Profile Based Web Search Personalization Through Semantic Crawler." National Academy Science Letters, <b>42</b> , 105–108 (2019). <a href="https://doi.org/10.1007/s40009-018-0686-2">https://doi.org/10.1007/s40009-018-0686-2</a> .(SCIE)
15.	Sumit Kumar Gupta, <b>Dhirendra Pratap Singh</b> , Dr. Jaytrilok Choudhary,"New GPU Sorting Algorithm Using Sorted Matrix", Procedia Computer Science, Volume 218, 2023, Pages 1682-1691, ISSN 1877-0509, <a href="https://doi.org/10.1016/j.procs.2023.01.146">https://doi.org/10.1016/j.procs.2023.01.146</a> (Scopus)
16.	Sumit Kumar Gupta, <b>Dhirendra Pratap Singh</b> , "CBLA: A Clique Based Louvain Algorithm for Detecting Overlapping Community", Procedia Computer Science, Volume 218, 2023, Pages 2201-2209, ISSN 1877-0509, <a href="https://doi.org/10.1016/j.procs.2023.01.196">https://doi.org/10.1016/j.procs.2023.01.196</a> (Scopus)
17.	Amit Kumar Nandanwar, Jaytrilok Choudhary and <b>Dhirendra Pratap Singh</b> , "Web Search Personalization based on the Principle of the Ant Colony", Procedia Computer Science, Vol. 189, 2021, Pages 100-107. <a href="https://doi.org/10.1016/j.procs.2021.05.073">https://doi.org/10.1016/j.procs.2021.05.073</a> . (Scopus)
18.	Avadhesh Pratap Singh, and <b>Dhirendra Pratap Singh</b> . "Implementation of K-shortest path algorithm in GPU using CUDA." Procedia Computer Science 48 (2015): 5-13. (Scopus)
19.	Choudhary, Jaytrilok, Padmanabhan Balasubramanian, Danny M. Varghese, <b>Dhirendra Pratap Singh</b> , and Douglas Maskell. "Generalized majority voter design method for N-modular redundant systems used in mission-and safety-critical applications." Computers 8, no. 1 (2019): 10. (Scopus)
20.	Gupta, Sumit, and <b>Dhirendra Pratap Singh</b> . "Greedy Graph Coloring Algorithm Based on Depth First Search." International Journal on Emerging Technologies 11(2): 854-862(2020). (Scopus)
21.	Amarja Indapwar, Prateek Dwivedi, Jaytrilok Choudhary, Sri Khetwati Saritha, <b>Dhirendra Pratap Singh</b> ," Logo Detection System for Live Videos", International Journal of Advanced Science and Technology Vol.29, No. 9s, (2020), pp.7455-7461. (Scopus)
22.	<b>Dhirendra Pratp Singh</b> and Nilay Khar. "Modified Dijkstra's algorithm for dense graphs on GPU using CUDA." Indian Journal of Science and Technology 9, no. 33 (2016): 1-9. (Scopus)
23.	<b>Dhirendra Pratap Singh</b> , Nilay Khare, and Akhtar Rasool. "Efficient parallel implementation of single source shortest path algorithm on GPU using CUDA." International Journal of Applied Engineering Research 11, no. 4 (2016): 2560-2567. (Scopus)
24.	Singla, Gunjan, Amrita Tiwari, and <b>Dhirendra Pratap Singh</b> . "New

- approach for graph algorithms on GPU using CUDA." *International Journal of Computer Applications* 72, no. 18 (2013).
25. **Dhirendra Pratap Singh**, and Nilay Khare. "A study of different parallel implementations of single source shortest path algorithms." *International Journal of Computer Applications* 54, no. 10 (2012).
  26. Jain, Priyank, Manasi Gyanchandani, Nilay Khare, **Dhirendra Pratap Singh**, and Lokini Rajesh. "A survey on big data privacy using hadoop architecture." *International Journal of Computer Science and Network Security (IJCSNS)* 17, no. 2 (2017): 148.
  27. **Singh, Dhirendra Pratap**, and Nilay Khare. "Parallel Implementation of the Single Source Shortest Path Algorithm on CPU-GPU Based Hybrid System." *International Journal of Computer Science and Information Security* 11, no. 9 (2013): 74.
  28. Mukesh Soni & **Dhirendra Pratap Singh**," Median First Tournament Sort", *International Journal of Computer Science Engineering and Information Technology Research (IJCSEITR)* Vol. 7, Issue 1, Feb 2017, 35-52.

#### **IEEE Conference Publications:**

29. M. Patel, R. Patel, **D. P. Singh**, J. Choudhary, and N. Nigam, "Faster Mimic and Fool: An Adversarial Attack," in *IEEE International Students' Conference on Electrical, Electronics and Computer Science*, MANIT, Bhopal, 24 Feb, 2024, doi: 10.1109/SCEECS61402.2024.10482358.
30. V. Shakya, J. Choudhary, and **D. P. Singh**, "Principal Component Analysis and Deep Learning-Based Traffic Anomaly Detection in WSN," in *IEEE International Students' Conference on Electrical, Electronics and Computer Science*, MANIT, Bhopal, 24 Feb, 2024, doi: 10.1109/SCEECS61402.2024.10481982.
31. R. K. Sinha, M. Kushwaha, J. Choudhary, **D. P. Singh**, and M. Pandey, "Flood Image Segmentation of UAV Aerial Images using Deep Learning," in *IEEE International Students' Conference on Electrical, Electronics and Computer Science*, MANIT, Bhopal, 25 Feb, 2024, doi: 10.1109/SCEECS61402.2024.10481993
32. M. Kushwaha, A. K. Nandanwar, A. V. Joy, J. Choudhary, and **D. P. Singh**, "Improved Semi Supervised Image Classification using GAN," in *IEEE International Students' Conference on Electrical, Electronics and Computer Science*, MANIT, Bhopal, 25 Feb, 2024, doi: 10.1109/SCEECS61402.2024.10481944.
33. A. K. Nandanwar, M. Kushwaha, K. Vishwatej, **D. P. Singh**, and J. Choudhary, "Nutrition Estimation and Dietary Assessment in Indian Food through Deep Learning," in *IEEE International Students' Conference on Electrical, Electronics and Computer Science*,

	MANIT, Bhopal, 25 Feb, 2024, doi: 10.1109/SCEECS61402.2024.10482111
34.	R. K. Yadav, N. Nigam, D. P. Singh and J. Choudhary, "Improving Vehicle Detection using Ghost Convolution and GhostBottleneck layers in YOLOv5s," 2023 International Conference on Computational Intelligence and Sustainable Engineering Solutions (CISES), Greater Noida, India, 2023, pp. 322-326, doi: 10.1109/CISES58720.2023.10183551.
35.	M. Bharti, J. Choudhary and <b>D. P. Singh</b> , "Detection and Classification of Pulmonary Lung Nodules in CT Images Using 3D Convolutional Neural Networks," 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS), 2022, pp. 1319-1324, doi: 10.1109/ICACCS54159.2022.9785134.
36.	A. Deshmukh, J. Choudhary and <b>D. P. Singh</b> , "Multi Kernel Scaled Deep Time Series Imputation," 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS), 2022, pp. 829-834, doi: 10.1109/ICACCS54159.2022.9784998.
37.	S. Mansuri, S. K. Gupta, <b>D. P. Singh</b> and J. Choudhary, "Modified DMGC Algorithm using ReLU-6 with Improved Learning Rate for Complex Cluster Associations," 2022 6th International Conference on Intelligent Computing and Control Systems (ICICCS), 2022, pp. 634-640, doi: 10.1109/ICICCS53718.2022.9788459.
38.	V. K. Meena, J. Choudhary and <b>D. P. Singh</b> , "Heart and Cardiac Arrest Analysis by Prediction of Hybrid Model," 2022 6th International Conference on Intelligent Computing and Control Systems (ICICCS), 2022, pp. 1600-1606, doi: 10.1109/ICICCS53718.2022.9788212.
39.	M. U. Ashraf, J. Choudhary and <b>D. P. Singh</b> , "Human age prediction from bone X-ray Scan images by using advanced Deep CNN," 2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE), 2022, pp. 1994-1999, doi: 10.1109/ICACITE53722.2022.9823550.
40.	Gothwal, Harshita, Jaytrilok Choudhary, and <b>Dhirendra Pratap Singh</b> . "The survey on skyline query processing for data-specific applications." In Proceedings of 3rd International Conference on Internet of Things and Connected Technologies (ICIoTCT), pp. 26-27. 2018.
41.	Naik, Rajat, <b>Dhirendra Pratap Singh</b> , and Jaytrilok Chaudhary. "A survey on comparative analysis of different ICA based face recognition technologies." In 2018 Second International Conference on Electronics, Communication and Aerospace Technology (ICECA), pp. 1913-1918. IEEE, 2018.
42.	Yadav, Susheel Kumar, <b>Dhirendra Pratap Singh</b> , and Jaytrilok

- Choudhary. "A survey: comparative analysis of different variants of local binary pattern." In 2018 Second International Conference on Inventive Communication and Computational Technologies (ICICCT), pp. 1878-1887. IEEE, 2018.
43. Dixit, Avantika, Jaytrilok Choudhary, and **Dhirendra Pratap Singh**. "Survey of Apache Storm Scheduler." In Proceedings of 3rd International Conference on Internet of Things and Connected Technologies (ICIoTCT), pp. 26-27. 2018.
44. Somani, Archit, and **Dhirendra Pratap Singh**. "Parallel Genetic Algorithm for solving Job-Shop Scheduling Problem Using Topological sort." In 2014 International Conference on Advances in Engineering & Technology Research (ICAETR-2014), pp. 1-8. IEEE, 2014.
45. Kumari, Sweta, and **Dhirendra Pratap Singh**. "A parallel selection sorting algorithm on GPUs using binary search." In 2014 International Conference on Advances in Engineering & Technology Research (ICAETR-2014), pp. 1-6. IEEE, 2014.

#### **Springer Book Chapter Publications:**

46. Gupta, S.K., Yadav, S., Singh, D.P., Choudhary, J. (2022). Local Roughness Binary Pattern for Texture Classification. In: Sharma, S., Peng, SL., Agrawal, J., Shukla, R.K., Le, DN. (eds) Data, Engineering and Applications. Lecture Notes in Electrical Engineering, vol 907. Springer, Singapore. [https://doi.org/10.1007/978-981-19-4687-5\\_26](https://doi.org/10.1007/978-981-19-4687-5_26)
47. Rambhad, A., Singh, D.P., Choudhary, J. (2023). Detection of Flood Events from Satellite Images Using Deep Learning. In: Bhateja, V., Yang, XS., Chun-Wei Lin, J., Das, R. (eds) Intelligent Data Engineering and Analytics. FICTA 2022. Smart Innovation, Systems and Technologies, vol 327. Springer, Singapore. [https://doi.org/10.1007/978-981-19-7524-0\\_23](https://doi.org/10.1007/978-981-19-7524-0_23)
48. Krishna K., Choudhary J., Singh D.P. (2021) Malicious Webpage Classification. In: Misra R., Kesswani N., Rajarajan M., Bharadwaj V., Patel A. (eds) Internet of Things and Connected Technologies. ICIoTCT 2020. Advances in Intelligent Systems and Computing, vol 1382. Springer, Cham. [https://doi.org/10.1007/978-3-030-76736-5\\_36](https://doi.org/10.1007/978-3-030-76736-5_36).
49. Shailesh Kumar Thakur , Dhirendra Pratap Singh and Jaytrilok Choudhary, Lung Cancer: Detection and Classification of Malignancies. In: Dubey, H.M., Pandit, M., Srivastava, L., Panigrahi, B.K. (eds) Artificial Intelligence and Sustainable Computing. Algorithms for Intelligent Systems. Springer, Singapore. [https://doi.org/10.1007/978-981-16-1220-6\\_38](https://doi.org/10.1007/978-981-16-1220-6_38).

	<p>50. Jaytrilok Choudhary, Kushagra Krishna and Dhirendra Pratap Singh, “Malicious Webpage Classification Using Deep Learning Technique. In: Dubey, H.M., Pandit, M., Srivastava, L., Panigrahi, B.K. (eds) Artificial Intelligence and Sustainable Computing. Algorithms for Intelligent Systems. Springer, Singapore. <a href="https://doi.org/10.1007/978-981-16-1220-6_39">https://doi.org/10.1007/978-981-16-1220-6_39</a>.</p> <p>51. Amarja Indapwar, Jaytrilok Choudhary and Dhirendra Pratap Singh, “Survey of Real-Time Object Detection for Logo Detection System. In: Sheth, A., Sinhal, A., Shrivastava, A., Pandey, A.K. (eds) Intelligent Systems. Algorithms for Intelligent Systems. Springer, Singapore. <a href="https://doi.org/10.1007/978-981-16-2248-9_7">https://doi.org/10.1007/978-981-16-2248-9_7</a>.</p> <p>52. S.Thakur, J.Choudhary, D.P.Singh : A Survey on Missing Values Handling Methods for Time Series Data. In: Sheth, A., Sinhal, A., Shrivastava, A., Pandey, A.K. (eds) Intelligent Systems. Algorithms for Intelligent Systems. Springer, Singapore. <a href="https://doi.org/10.1007/978-981-16-2248-9_42">https://doi.org/10.1007/978-981-16-2248-9_42</a></p> <p>53. Sushmita Uikey, Dhirendra Pratap Singh, and Jaytrilok Choudhary, “Sentiment Analysis: A Comparative Analysis. In: Jacob, I.J., Kolandapalayam Shanmugam, S., Bestak, R. (eds) Data Intelligence and Cognitive Informatics. Algorithms for Intelligent Systems. Springer, Singapore. <a href="https://doi.org/10.1007/978-981-16-6460-1_61">https://doi.org/10.1007/978-981-16-6460-1_61</a></p>
<b>Member of professional bodies</b>	<p>1. IEEE – Senior Member 2. ACM</p>
<b>Number of PhD, P.G., U.G. Projects guided</b>	<p>PHD- 03 (Awarded) 07 (Ongoing)</p> <p>M.Tech Thesis - 30</p> <p>B.Tech Project - 60</p>
<b>Administrative Activities</b>	<p><b>Institute Level:</b></p> <ol style="list-style-type: none"> <li>Coordinator Institute Website.(March 2024-Till Date)</li> <li>Member of BOG MANIT (July 2020 – June 2022)</li> <li>Member of Building Work Committee. (Sep. 2020 – June 2022 )</li> <li>Warden Hostel No-3 (April- 2021- Sep-2022)</li> <li>Warden Hostel No-6 (April- 2020- May 2022)</li> <li>Warden Hostel No-2(Jan 2019 to March 2020).</li> <li>Faculty I/C Institute Examinations (Jan 2018- Dec-2020).</li> <li>Co-professor I/C Institute Examinations (Jan-2020 – Jan 2021)</li> <li>Member of Central Computing facility of Institute. (Fab-2018 - Till date).</li> <li>Coordinator of Institute Turnitin S/W (Oct 2019- Till date).</li> <li>Member of Institute NIRF committee.</li> </ol>

12. Coordinator of Shodhganga MHRD Digital initiative(Sep-2020- June 2022)
13. Coordinator of Shodhsuddhi MHRD Digital initiative (Sep-2020- Till date).
14. Coordinator of E- PG Pathsala MHRD Digital initiative.
15. Coordinator of Written Examination for DPC of technical staff in 2019.
16. Coordinator of Medal Distribution Committee of 16<sup>th</sup> and 17<sup>th</sup> convocation.
17. Academic Committee member in 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup> convocation.
18. Member of Institute Committee on Employees Benevolence Fund.
19. Member of Institute Temporary Faculty Selection committee.( July 2021).
20. Member of Document verification committee of Regular faculty recruitment in 2018 and 2019.
21. Member of Stock verification Committee.
22. Member of Institute library Stock verification Committee.
23. Member of discipline Committee “Maffick -2019” and “Maffick-2020”.
24. Member of Anti-Ragging Committee.
25. Member of NMEICT committee MANIT, Bhopal.
26. Member of NKN committee MANIT, Bhopal.
27. Member of MANIT Networking Committee (2013-2016).

#### **Department Level:**

1. PG Coordinator (Advance Computing Branch)
2. Coordinator of DUPC Committee of CSE Department (Jan. 2022 - Dec 2023).
3. Coordinator of DUPC Committee of CSE Department (Jan. 2022 - Dec 2023).
4. Member of DRPC Committee of CSE Department (Jan. 2022 – Dec 2023)
5. Member of DUPC committee CSE Department (July 2016-Dec. 2021)
6. Member of UG & PG BOS, of CSE Department ( Till 2020)
7. Minor Project Coordinator CSE-2 (Jan 2019- Dec. 2021)
8. Exam Coordinator CSE Department. (July 2018-Dec-2019).
9. Faculty I/C of Contact faculty CSE (Jan. -2019- Dec. 2021 date).
10. TPO Coordinator CSE Department (July 2016- June-2019).
11. Examination evaluation I/C CSE Department (Dec. 2010- Dec. 2012).
12. I/C Computing Lab-II (100 Computers) (July 2012 to Till date).
13. Department Plagiarism Software coordinator.

<b>List of Workshops or Short Term Training Program Attended</b>		
<b>S. No.</b>	<b>Workshop Name</b>	<b>Duration</b>
Workshops	1 Workshop on “Testing of Low Cost Access-cum- Computing device” Organized IIT Rajasthan under NMEICT, of MHRD Govt. of India.	3 days
	2 Short Term Course on “MATLAB” organized by Department of Electrical Engineering of MANIT Bhopal	5 days
	3 Workshop on “Fuel Cells and IEC 61850 Implementation” Organized by Department of Computer Science and Engineering of MANIT Bhopal.	2 days
	4 C-Dec technology workshop on “Heterogeneous Computing – Many Core/ Multi GPU- Performance of Algorithms, Application Kernels (HeMPa 2011)” at CMSD University of Hyderabad.	5 days
	5 ISTE Workshop on “Database Management Systems” conducted by Indian Institute of Technology Bombay.	11 days
	6 Workshop on “Network Enumeration and security” Organized by Department of Computer Science and Engineering of MANIT Bhopal.	5 days
	7 Workshop on “Network Enumeration and security” Organized by Department of Computer Science and Engineering of MANIT Bhopal.	3 days
	8 Workshop on “Testing of Low Cost Access-cum- Computing device” Organized IIT Rajasthan under NMEICT, of MHRD Govt. of India.	3 days
	9 Short Term Course on “MATLAB” organized by Department of Electrical Engineering of MANIT Bhopal	5 days
	10 National Symposium on NSM Grid over NKN (NKN Partners Meet 2017) at Bengaluru.	2 days
Workshops Organised	<b>S.No.</b>	<b>Details of Sort Term Training Program</b>
	1.	Artificial Intelligence and Machine Learning Application
	2.	Hands on Experience in Big Data Analysis Using Hadoop.
	3.	Internetworking and applications
	4.	Workshop on “Basic Concept of Internet and email”
Other	1. Reviewer of “Journal of Parallel and Distributed Computing”	

<b>Academic Activities</b>	<p>Elsevier.</p> <ol style="list-style-type: none"> <li>2. Member of TPC of 4th International Conference on Machine Intelligence and Signal Processing (MISP) Organized By Department of Computer Science and Engineering ,National Institute of Technology Raipur, India</li> <li>3. Reviewed the book “DATA Analytics” (McGraw Hill Education, India).</li> <li>4. Reviewer of International Conference on Information, Communication and Computing Technology (ICICCT-2017) in collaboration with Springer &amp; Computer Society of India.</li> <li>5. Reviewer of ICSISSET- 2019: International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering &amp; Technology.</li> <li>6. Reviewer of SCEECS '18: 2018 IEEE International Students' Conference on Electrical, Electronics &amp; Computer Science.</li> <li>7. Reviewer of SCEECS-2016: 2016 IEEE International Students' Conference on Electrical, Electronics &amp; Computer Science.</li> <li>8. Session Chair in SCEECS-2020: 2020 IEEE International Students' Conference on Electrical, Electronics &amp; Computer Science.</li> <li>9. Reviewer of the 1st International Conference on Data, Engineering and Applications 2017 (IDEA-2k17) is being organized during October 28-29, 2017 in Bhopal.</li> <li>10. Expert lecture delivered in MANIT Electrical Department workshop.</li> <li>11. Expert lecture delivered in MITS, Gwalior MCA Department workshop.</li> <li>12. Expert lecture delivered in MANIT CSE Department workshop on “Big Data”.</li> <li>13. Expert lecture delivered in MANIT ECE &amp; CSE Department workshop on “Internetworking and applications”.</li> <li>14. Expert lecture delivered in Pt. Khushilal Sharma Govt. (Autonomous) Ayurveda College &amp; Institute Bhopal workshop for faculty members.</li> </ol>
<b>Expert in Outside Institute Activities</b>	<ol style="list-style-type: none"> <li>1. Expert in Technical Evaluation Committee CLR, Gwalior, Madhya Pradesh.</li> <li>2. Expert in computer operator selection M P Vidhan Sabha.</li> <li>3. Expert in computer operator selection Rural management college Bhopal.</li> <li>4. Expert in Technical evaluation of computer hardware in “Pt. Khushilal Sharma Govt. (Autonomous) Ayurveda College &amp; Institute Bhopal”.</li> <li>5. Expert in selection of “Project Manager cum GIS Developer” and ‘Andriod Developer’ in MP Council of Science &amp; Technology</li> </ol>

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|  | <ul style="list-style-type: none"><li>6. Observer in NEET – Exam. in years 2017 , 2018 and 2021.</li><li>7. Observer in UGC-NET Exam. in years 2017, 2018 and 2019.</li><li>8. Observer in JEE MAIN Exam. in years 2017, 2018 and 2019.</li></ul> |
|--|---|



### Contact Details

## Dr. Akhtar Rasool

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ORCID	<a href="https://orcid.org/0000-0001-9964-2414">https://orcid.org/0000-0001-9964-2414</a>
Vidwan	<a href="https://vidwan.inflibnet.ac.in/profile/61721">https://vidwan.inflibnet.ac.in/profile/61721</a>
Scopus Author ID	57219281385

### Educational Qualification

Year	Degree/Program	Board University
2014	Ph.D.	Maulana Azad National Institute of Technology, Bhopal
2007	M.Tech	Maulana Azad National Institute of Technology, Bhopal
2003	B.E	Rajiv Gandhi Proudyogiki Vishwavidyalaya Bhopal

### Teaching Experience

Organization	Start Date	End Date	Designation	Nature of Work
Maulana Azad National Institute of Technology Bhopal, Madhya Pradesh	May 2010	Continuing	Assistant Professor	Academic
Impetus infotech PVT. India Ltd	Jan 2007	May 2010	Software Engineer	Industry
T.I.E.I.T Bhopal	Jan 2004	Aug 2005	Lecturer	Academic
SSSIST Sehore	Aug 2003	Dec 2003	Lecturer	Academic

### Ph.D. Supervised/Ongoing

Name of the Student	Topic	Year of Award	Co-Supervisor (if any)
Gaurav Hajela	Crime Pattern Prediction using Bigdata Analytics and Machine Learning	2022	Dr. Meenu Chawla
Kapil Kumar Soni	Design and Analysis of Quantum based Pattern Matching Algorithms	2023	Nil
Aditya Dubey	Missing At Randon Data Imputation using Similarity based Techniques	2023	Nil
Abhishek Jadhav	Attention-based Computational Models for Medical Image Segmentation	Ongoing	Dr. Manasi Gyanchandani
Muktesh Gupta	Change Point Detection-based Prediction for Time-series	Ongoing	Dr. Rajesh Wadhvani

	Data Applications		
Debangana Ram	Big Data Privacy	Ongoing	Dr. Manasi Gyanchandani
Saima Hasib	Quantum Machine Learning	Ongoing	Dr. Manasi Gyanchandani

Patents				
Title	Year	Agency	Co-Investigator(if any)	Published/Granted
A SMART AGRICULTURE SYSTEM AND METHOD INTEGRATED WITH IOT DEVICES	2021	Intellectual Property India	-	Published

Administrative Work Done		
Activity	Duration	Total Time
PG Coordinator (Computer Networking)	2022 to till date	1+ years
Tutor Mentor Scheme Coordinator	2022 to till date	1+ years
Institute Industry Interaction Coordinator	2018 to 2021	3 years
Department Examination Coordinator	2017 to 2021	4 years
MANIT Plagiarism Co-Coordinator	2014 to 2016	3 years
CSE Contract Faculty Coordinator	2013 to 2016	4 years
MANIT Networking team member	2013 to 2015	2 years
CSE Deptt. Time Table Coordinator	2012 to 2015	3 years
Parallel Computing Lab I/C	2012 to till date	10+ years
NKN Team member	2012 to 2015	3 years
Member of UG & PG BOS, CSE	2011 to 2016	5 years
CSE TPO Faculty Coordinator	2010 to 2015	5 years

Other Information	
Activity	Count
Workshops/Short-Term Training Programs Attended	18
Workshops/Short-Term Training Programs Organized	06
Conferences Organized	01

Publications	
• International Journals:	25
• International Conference:	34
• Book Chapters:	12
Journal Papers	
1.	Muktesh Gupta, Rajesh Wadhvani, and Akhtar Rasool. "Comprehensive analysis of change-point dynamics detection in time series data: A review." Expert Systems with Applications (2024): 123342.
2.	Aditya Dubey, Rahul Ahirwar, Akhtar Rasool, Ankit Kumar, and Sachin Mehra. "Employing Transfer Learning and LSTM Networks for COVID-19 Detection via Chest X-Ray Imagery." Traitement du Signal 40, no. 4 (2023).
3.	Muktesh Gupta, Rajesh Wadhvani, Akhtar Rasool, "A real-time adaptive model for bearing fault classification and remaining useful life estimation using deep neural network", Knowledge-Based Systems, Elsevier, ISSN 0950-7051, pp.110070 (22 pages), Volume 259, 2023.

4. Muktesh Gupta, Rajesh Wadhvani, Akhtar Rasool, "Real-time Change-Point Detection: A deep neural network-based adaptive approach for detecting changes in multivariate time series data", *Expert Systems with Applications*, Elsevier, ISSN 0957-4174, pp.118260 (16), Volume 209, 2022.
5. Aditya Dubey, Akhtar Rasool, "Usage of Clustering and Weighted Nearest Neighbors for Efficient Missing Data Imputation of Microarray Gene Expression Dataset", *Advanced Theory and Simulations*, Wiley, ISSN 2513-0390, pp. 1-16, Volume 5, 2022.
6. Aditya Dubey, Akhtar Rasool, "Recent advances and applications of deep learning technique", *Journal of Theoretical and Applied Information Technology*, Little Lion Scientific, ISSN 1992-8645, pp. 5000-5009, Volume 100, 2022.
7. Aditya Dubey, Akhtar Rasool, "Usage of deep learning in recent applications", *Archives of Materials Science and Engineering*, International OCSCO World Press, ISSN 1897-2764, pp.49-57, Volume 115, 2022.
8. Kapil Kumar Soni, Akhtar Rasool, "Quantum-effective exact multiple patterns matching algorithms for biological sequences", *PeerJ Computer Science*, PeerJ Inc, ISSN 2167-8359, e957 (55 pages), Volume 8, 2022.
9. Aditya Dubey, Akhtar Rasool, "Efficient technique of microarray missing data imputation using clustering and weighted nearest neighbour", *Scientific Reports*, Nature Publishing Group UK, ISSN 2045-2322, pp. 1- 12, Volume 11, 2021.
10. Gaurav Hajela, Meenu Chawla, Akhtar Rasool, "Crime hotspot prediction based on dynamic spatial analysis", *ETRI Journal*, Wiley, ISSN 1225-6463, pp. 1058-1080, Volume 43, 2021.
11. Amarjeet Yadav, Aditya Dubey, Akhtar Rasool, Nilay Khare, "Data mining based imputation techniques to handle missing values in gene expressed dataset", *International Journal of Engineering Trends and Technology*, Seventh Sense Research Group, ISSN 2231-5381, pp. 242-250, Volume 69, 2021.
12. Kapil Kumar Soni, Akhtar Rasool, "Quantum-based exact pattern matching algorithms for biological sequences", *ETRI Journal*, Wiley, ISSN 12256463, pp. 483-510, Volume 43, 2021.
13. Gaurav Hajela, Meenu Chawla, Akhtar Rasool, "A multi-dimensional crime spatial pattern analysis and prediction model based on classification", *ETRI Journal*, Wiley, ISSN 12256463, pp. 272-287, Volume 43, 2021.
14. Gaurav Hajela, Meenu Chawla, Akhtar Rasool, "A Heuristic Approach to Crime Prediction based on Generalization of Crime Categories", *Recent Patents on Engineering*, Bentham Science, ISSN (Print) 1872-2121, ISSN (Online) 2212-4047, pp. 74-79, Volume 15, 2021.
15. Kapil Kumar Soni, Akhtar Rasool, "Quantum Computation Based Grover's Search Algorithm and its Variations", *Recent Patents on Engineering*, Bentham Science, ISSN (Print) 1872-2121, ISSN (Online) 2212-4047, pp.45-54, Volume 15, 2021.
16. Chiranjit Das, Akhtar Rasool, Aditya Dubey, Nilay Khare, "Analyzing the Performance of Anomaly Detection Algorithms", *International Journal of Advanced Computer Science and Applications*, Science and Information (SAI) Organization Limited, ISSN : 2156-5570, pp. 439-445, Volume 12, 2021.
17. Aditya Dubey, Akhtar Rasool, "Clustering-based hybrid approach for multivariate missing data imputation", *International Journal of Advanced Computer Science and Applications*, Science and Information (SAI) Organization Limited, ISSN 2156-5570, pp. 710-714, Volume 11, 2020.
18. Gaurav Hajela, Meenu Chawla, Akhtar Rasool, "A clustering based hotspot identification approach for crime prediction", *Procedia Computer Science*, Elsevier, ISSN 1877-0509, pp. 1462-1470, Volume 167, 2020.
19. Kapil Kumar Soni, Akhtar Rasool, "Pattern matching: a quantum oriented approach", *Procedia Computer Science*, Elsevier, ISSN 1877-0509, pp. 1991-2002, Volume 167, 2020.
20. Prakhar Shrivastava, Kapil Kumar Soni, Akhtar Rasool, "Classical equivalent quantum unsupervised learning algorithms", *Procedia Computer Science*, Elsevier, ISSN 1877-0509, pp.1991-2002, Volume 167, 2020.
21. Akhtar Rasool, Gulfishan Firdose Ahmed, Raju Barskar, Nilay Khare, "Efficient multiple pattern

- matching algorithm based on BMH: MP-BMH", The International Arab Journal of Information Technology, Zarqa University Jordan, ISSN: 1683-3198, pp.1121-1130, Volume 16, 2019.
22. Akhtar Rasool, Kapil Kumar Soni, "Searching Speedup through Quantum Computing", Journal of Advance Research in Dynamical & Control Systems, Institute of Advanced Scientific Research, ISSN: 1943-023X, pp. 113-123, Volume 10, 2018.
  23. Aditya Dubey, Akhtar Rasool, "Impact on Air Quality Index of India Due to Lockdown", Procedia Computer Science, Elsevier, ISSN 1877-0509, pp. 969-978, Volume 218, 2023.
  24. Abhishek Jadhav, Akhtar Rasool, Manasi Gyanchandani, "Quantum Machine Learning: Scope for real-world problems", Procedia Computer Science, Elsevier, ISSN 1877-0509, pp. 2612-2625, Volume 218, 2023.
  25. Rahul Rane, Aditya Dubey, Akhtar Rasool, Rajesh Wadhvani, "Data Mining Based Techniques for Covid-19 Predictions", Procedia Computer Science, Elsevier, ISSN 1877-0509, pp. 210-219, Volume 218, 2023.

#### **Conference**

1. Tiwari, Rudra, Ayushi Prajapati, Saravana Chandran, Divyansh Agrawal, Akhtar Rasool, and Abhishek Jadhav. "Emotion Detection through Human Verbal Expression Using Deep Learning Techniques." In 2024 IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS), pp. 1-7. IEEE, 2024.
2. Sukhramani, Kritika, Harshika Kumre, Akhtar Rasool, and Abhishek Jadav. "Binary Classification of News Articles using Deep Learning." In 2024 IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS), pp. 1-9. IEEE, 2024.
3. Sinha, Rahul, Pragati Agrawal, and Akhtar Rasool. "Hyperparameter Tuned Cloud Based Cyber Physical Attack Detection using Stacking Ensemble Learning." In 2024 IEEE International Students' Conference on Electrical, Electronics and Computer Science (SCEECS), pp. 1-6. IEEE, 2024.
4. Rahul Rane, Aditya Dubey, Akhtar Rasool, Rajesh Wadhvani, Neural Network Based Mortality Prediction in Covid-19 Dataset International Conference on Artificial Intelligence of Things 30-31 March 2023
5. Ananya Raj, Aditya Dubey, Akhtar Rasool and Rajesh Wadhvani, Machine Learning based Missing Data Imputation Techniques14th International Conference On Computing, Communication And Networking Technologies (Icccnt) · July 6th - 8th, 2023
6. Shoaib Ahmed, Aditya Dubey, Akhtar Rasool and Manasi Gyanchandani, Access Control and Encryption Techniques during Big Data Accessing Stage14th INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND NETWORKING TECHNOLOGIES (ICCCNT) · July 6th - 8th, 2023.
7. Anshul Kumar, , Rajesh Wadhvani, Akhtar Rasool, and Muktesh Gupta. "Quantile Regression in Machine Learning: A Survey." In 2023 Third International Conference on Secure Cyber Computing and Communication (ICSCCC), pp. 750-755. IEEE, 2023.
8. Aman Pant, Akhtar Rasool and Rajesh Wadhvani, Recommendation System for Health-care using Reinforcement learning: A survey11th International Conference on contemporary Engineering and Technology
9. Shivangi Tripathi, Abhishek Jadhav and Akhtar Rasool Medical Image Segmentation using Deep Learning Method 4th International Conference on Data Science and Applications (ICDSA 2023)
10. Rishita Raj, Rajesh Wadhvani, Akhtar Rasool, and Muktesh Gupta. "Quantile Regression Approach in Analysis of Factors Affecting Song Popularity." In 2023 Third International Conference on Secure Cyber Computing and Communication (ICSCCC), pp. 61-66. IEEE, 2023
11. Akhtar Rasool, Aman Pant, Rajesh Wadhvani, Abhishek Jadhav, "Heart disease prediction using image segmentation Through the CNN model.",2023 13th International Conference on Cloud Computing, Data Science & Engineering (Confluence), Noida, India, 2023, pp.374-380, Online 978-1-6654-6263-1, Print 978-1-6654-6264-8,2023.
12. Akhtar Rasool, Shivangi Tripathi, Rajesh Wadhvani, Abhishek Jadhav, ""Comparison Analysis of

Deep Learning Models in Medical Image Segmentation""",2023 13th International Conference on Cloud Computing, Data Science & Engineering (Confluence), Noida, India, 2023,pp. 468-471, Online 978-1-6654-6263-1, Print 978-1-6654-6264-8,2023.

13. Risham Kumar Pansari, Akhtar Rasool, Rajesh Wadhvani, Aditya Dubey, Machine Learning Based Stock Market Prediction International Conference on Next Generation Systems and Networks, 4-5 November, 2022
14. Rahul Ahirwar, Akhtar Rasool, Aanya Chouhan, Aditya Dubey, Sachin Mehra, Ankit Kumar, ""Covid-19 Detection based on Transfer Learning & LSTM Network using X-ray Images""",2022 IEEE World Conference on Applied Intelligence and Computing (AIC), Sonbhadra, India, 2022, pp. 300-306, Online 978-1-6654-7988-2 Print 978-1-6654-7989-9,2022.
15. Mayank Shukla, Akhtar Rasool, Aditya Jain, Vishwas Sahu, Prerak Verma, Aditya Dubey, "COVID-19 Detection Using Raw Chest X-Ray Images",2022 IEEE World Conference on Applied Intelligence and Computing (AIC), Sonbhadra, India, 2022, pp. 320-325,Online 978-1-6654-7988-2 Print 978-1-6654-7989-9, 2022.
16. "Ayush Soni, Akhtar Rasool, Aditya Dubey, Nilay Khare, "Data Mining based Dimensionality Reduction Techniques""",2022 Internation11al Conference for Advancement in Technology (ICONAT), Goa, India, 2022, pp. 1-8, Online 978-1-6654-2577-3 Print 978-1-6654-2578-0,2022.
17. "Vecha Sri Charan, Akhtar Rasool, Aditya Dubey, "Stock Closing Price Forecasting using Machine Learning Models",,2022 International Conference for Advancement in Technology (ICONAT), Goa, India, 2022, pp. 1-7, Online 978-1-6654-2577-3 Print 978-1-6654-2578-0,2022.
18. "Parth Vyas, Falak Sharma, Akhtar Rasool, Aditya Dubey, "Supervised Multimodal Emotion Analysis of Violence on Doctors Tweets",2021 Fifth International Conference on I-SMAC (IoT in Social, Mobile, Analytics, and Cloud) (I-SMAC), Palladam, India, 2021, pp. 962-967,Online ISSN 2768-0673 Print 2768-0665, 2021.
19. Manish Kumar Sharma, Prince Kumar, Akhtar Rasool, Aditya Dubey, Vishal Kumar Mahto, "Classification of Actual and Fake News in Pandemic,",,2021 Fifth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Palladam, India, 2021, pp. 1168-1174, Online ISSN 2768-0673 Print 2768-0665, 2021.
20. "Vikesh Kumar Gond, Aditya Dubey, Akhtar Rasool, "A Survey of Machine Learning-Based Approaches for Missing Value Imputation",2021 Third International Conference on Inventive Research in Computing Applications (ICIRCA), Coimbatore, India, 2021,pp. 1-8,Online 978-1-6654-3877-3 Print 978-1-6654-4604-4, 2021.
21. MA Aromal, Akhtar Rasool, Aditya Dubey, BN Roy, "Optimized Weighted Samples Based Semi-supervised Learning",2021 Second International Conference on Electronics and Sustainable Communication Systems (ICESC), Coimbatore, India, 2021,pp. 1311-1318, Online 978-1-6654-2867-5 Print 978-1-6654-2868-2, 2021.
22. "Priyanka Jojan, Kapil Kumar Soni, Akhtar Rasool, "Classical and Quantum based Differential Cryptanalysis Methods",2021 12th International Conference on Computing Communication and Networking Technologies (ICCCNT), Kharagpur, India, 2021, pp. 1-7, Online 978-1-7281-8595-8 Print 978-1-7281-8596-5, 2021.
23. Drishti Beohar, Akhtar Rasool, "Handwritten Digit Recognition of MNIST dataset using Deep Learning state-of-the-art Artificial Neural Network (ANN) and Convolutional Neural Network (CNN)",2021 International Conference on Emerging Smart Computing and Informatics (ESCI), Pune, India, 2021, pp. 542-548, Online 978-1-7281-8519-4 Print 978-1-7281-8520-0, 2021.
24. MA Aromal, Akhtar Rasool, "Semi Supervised Learning Using Graph Data Structure – A Review", 2021 Third International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV), Tirunelveli, India, 2021, pp. 894-899, Online 978-1-6654-1960-4 Print 978-1-6654-2998-6, 2021.
25. Lakhan Jasuja, Akhtar Rasool, Gaurav Hajela, "Voice Gender Recognizer Recognition of Gender from Voice using Deep Neural Networks",2020 International Conference on Smart Electronics and Communication (ICOSEC), Trichy, India, 2020, pp. 319-324, Online 978-1-7281-5461-9 Print 978-1-

7281-5462-6, 2020.

26. Yukta Tiwari, Akhtar Rasool, Gaurav Hajela, "Machine Learning with Generative Adversarial Network", 2020 Second International Conference on Inventive Research in Computing Applications (ICIRCA), Coimbatore, India, 2020, pp. 543-548, Online 978-1-7281-5374-2 Print 978-1-7281-5375-9, 2020.
27. Vineet Sharma, Akhtar Rasool, Gaurav Hajela, "Prediction of Heart disease using DNN", 2020 Second International Conference on Inventive Research in Computing Applications (ICIRCA), Coimbatore, India, 2020, pp. 554-562, Online 978-1-7281-5374-2 Print 978-1-7281-5375-9, 2020.
28. Disha Uke, Kapil Kumar Soni, Akhtar Rasool, "Quantum based Support Vector Machine Identical to Classical Model", 2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Kharagpur, India, 2020, pp. 1-6, Online 978-1-7281-6851-7 Print 978-1-7281-6852-4, 2020.
29. Barkha Soni, Nilay Khare, Kapil Kumar Soni, Akhtar Rasool, "Classical Equivalent Quantum Based Efficient Data Preprocessing Algorithm", 2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Kharagpur, India, 2020, pp. 1-7, Online 978-1-7281-6851-7 Print 978-1-7281-6852-4, 2020.
30. G Krishna Vamsi, Akhtar Rasool, Gaurav Hajela, "Chatbot: A Deep Neural Network Based Human to Machine Conversation Model", 2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Kharagpur, India, 2020, pp. 1-7, Online 978-1-7281-6851-7 Print 978-1-7281-6852-4, 2020.
31. Aditya Dubey, Akhtar Rasool, "Data Mining based Handling Missing Data", 2019 Third International conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), Palladam, India, 2019, pp. 483-489, Online 978-1-7281-4365-1 Print 978-1-7281-4366-8, 2019.
32. Kapil Kumar Soni, Akhtar Rasool, "Classical Equivalent Quantum Based Pattern Matching Algorithms", 2019 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Kanpur, India, 2019, pp. 1-7, Online 978-1-5386-5906-9 Print 978-1-5386-5907-6, 2019.
33. Prakhar Shrivastava, Kapil Kumar Soni, Akhtar Rasool, "Evolution of Quantum Computing Based on Grover's Search Algorithm", 2019 10th International Conference on Computing, Communication and Networking Technologies (ICCCNT), Kanpur, India, 2019, pp. 1-6, Online 978-1-5386-5906-9 Print 978-1-5386-5907-6, 2019.
34. Subhra Shriti Mishra, Akhtar Rasool, "IoT Health care Monitoring and Tracking: A Survey", 2019 3rd International Conference on Trends in Electronics and Informatics (ICOEI), Tirunelveli, India, 2019, pp. 1052-1057, Online 978-1-5386-9439-8 Print 978-1-5386-9440-4, 2019.

#### **Book Chapter**

1. "Akhtar Rasool, Amarjeet Yadav, Aditya Dubey, Nilay Khare, "A Hybrid Approach for Missing Data Imputation in Gene Expression Dataset Using Extra Tree Regressor and a Genetic Algorithm", Lecture Notes in Electrical Engineering, Springer Nature Singapore, Print 978-981-99-0046-6, Online 978-981-99-0047-3, Vol 998, 2023.
2. Akhtar Rasool, Parth Vyas, Manish Sharma, Aditya Dubey, "Comparative Study of Loss Functions for Imbalanced Dataset of Online Reviews", Lecture Notes in Electrical Engineering, Springer Nature Singapore, Print 978-981-99-0046-6 Online 978-981-99-0047-3, Vol 998, 2023.
3. Akhtar Rasool, Vikesh Kumar Gond, Aditya Dubey, Nilay Khare, "Missing Value Imputation Using Weighted KNN and Genetic Algorithm", Lecture Notes in Networks and Systems, Springer Nature Singapore, Print 978-981-19-5223-4 Online 978-981-19-5224-1, Vol 517, 2023.
4. Ayush Soni, Akhtar Rasool, Aditya Dubey, Nilay Khare, "Visualizing Commenters Opinions Through Topic Analysis", Lecture Notes in Networks and Systems, Springer Nature Singapore, Print 978-981-19-5223-4 Online 978-981-19-5224-1, Vol 517, 2023.
5. Chiranjit Das, Aditya Dubey, Akhtar Rasool, "Outlier Detection Techniques: A Comparative Study", Lecture Notes in Electrical Engineering, Springer Singapore, Print 978-981-19-0018-1

Online 978-981-19-0019-8, Vol 869, 2022.

6. Prakhar Shrivastava, Kapil Kumar Soni, Akhtar Rasool,"Quantum Based Deep Learning Models for Pattern Recognition", Communications in Computer and Information Science, Springer International Publishing, Print 978-3-030-88377-5 Online 978-3-030-88378-2, Vol 1417, 2021.
7. Priyanka Jojan, Kapil Kumar Soni, Akhtar Rasool,"Quantum Computation-Based Secured Key Distribution Protocols", Lecture Notes in Networks and Systems, Springer Singapore, Print 978-981-15-9773-2 Online 978-981-15-9774-9, Vol 164, 2021.
8. Sunil Kumar Vishwakarma, Akhtar Rasool, Gaurav Hajela,"Machine learning algorithms for prediction of credit card defaulters—A comparative study", Lecture Notes in Networks and Systems, Springer Singapore, Print 978-981-33-4354-2 Online 978-981-33-4355-9, Vol 176, 2021.
9. Aditya Dubey, Akhtar Rasool,"Time series missing value prediction: algorithms and applications", Communications in Computer and Information Science, Springer Singapore, Print 978-981-15-9670-4 Online 978-981-15-9671-1, Vol 1170, 2020.
10. Subhra Shriti Mishra, Akhtar Rasool,"IoT Devices for Monitoring Natural Environment—A Survey", Lecture Notes in Networks and Systems, Springer Singapore, Print 978-981-15-2070-9 Online 978-981-15-2071-6, Vol 100, 2020.
11. Jose P Dumas, Kapil Soni, Akhtar Rasool,"An introduction to quantum search algorithm and its implementation", Advances in Intelligent Systems and Computing, Springer Singapore, Print 978-981-13-1401-8 Online 978-981-13-1402-5, Vol 808, 2019.
12. Manoranjan Behera, Akhtar Rasool,"Big data security threats and prevention measures in cloud and Hadoop", Advances in Intelligent Systems and Computing, Springer Singapore, Print 978-981-13-1401-8 Online 978-981-13-1402-5, Vol 808, 2019.

### **Detailed Bio-data**

## DR. JAYTRILOK CHOUDHARY

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<b>Name</b> :	Dr. Jaytrilok Choudhary Assistant Professor, CSE department MANIT – Bhopal(M.P)			
<b>Email</b> :	<a href="mailto:jaytrilok@manit.ac.in">jaytrilok@manit.ac.in</a> ; <a href="mailto:jaytrilok@gmail.com">jaytrilok@gmail.com</a> ;			
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<b>Address(office) :</b>	Department of CSE, MANIT Bhopal, Bhopal(MP)			
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<b>Qualification Details (from Graduation onwards)</b>				
Degree	Year of Award	University	Institution	% of Marks
B.E.(IT)	2005	RGPV Bhopal	MITM Indore	74%
M.Tech. (CSE)	2009	IIT Roorkee	IIT Roorkee	8.16 CGPA
PhD(CSE)	2015	MANIT Bhopal	MANIT Bhopal	--
<b>Experience Details</b>				
Designation	Duration	Period	Organization	
		From	To	
Assistant Professor	13 Years 6 Months	June 2010	(till date)	MANIT Bhopal
Assistant Professor	3 Months	Febuary 2010	May 2010	JUIT Guna
Senior Lecturer	6 Months	September 2009	Febuary 2010	SVCE Indore
Lecturer	1 .5 years	January 2006	July 2007	RIT Indore

## **Research Area**

- Parallel processing, Data Mining, Web Mining and Information Retrieval, Machine Learning.

## **Teaching Area**

- TOC, Compiler Design, Digital Logic Design, DBMS, Operating System, Computer Architecture

## **Achievements**

1. Best Faculty Award 2K16 in Bhopal by CII (Confederation of Indian Industries)
2. GATE CSE AIR Rank 203 in 2007 and AIR Rank 242 in 2010

## **Programmed Participation Details**

1. Workshop and Training Program organized	04
2. Conference Organized	01
2. Workshop and Training Program attended	15
4. Expert lecture Delivered	48

## **Paper Publication Details**

### **1. International Journals**

- [1] Jain, Gaurav, Dhirendra Pratap Singh, and Jaytrilok Choudhary. "Flynet–Neural Network Model for Automatic Building Detection from Satellite Images." *Journal of the Indian Society of Remote Sensing* (2023): 1-16.
- [2] Nandanwar, Amit Kumar, and Jaytrilok Choudhary. "Contextual Embeddings-Based Web Page Categorization Using the Fine-Tune BERT Model." *Symmetry* 15, no. 2 (2023): 395.
- [3] Gupta, Sumit Kumar, Dhirendra Pratap Singh, and Jaytrilok Choudhary. "New GPU Sorting Algorithm Using Sorted Matrix." *Procedia Computer Science* 218 (2023): 1682-1691.
- [4] Nigam, Nikhil, Dhirendra Pratap Singh, and Jaytrilok Choudhary. "A Review of Different Components of the Intelligent Traffic Management System (ITMS)." *Symmetry* 15, no. 3 (2023): 583.
- [5] Solanki, Surendra, Vasudev Dehalwar, Jaytrilok Choudhary, Mohan Lal Kolhe, and Koki Ogura. "Spectrum Sensing in Cognitive Radio Using CNN-RNN and Transfer Learning." *IEEE Access* 10 (2022): 113482-113492.
- [6] Kushwaha, Mohit, Jaytrilok Choudhary, and Dhirendra Pratap Singh. "Enhancement of human 3D pose estimation using a novel concept of depth prediction with pose alignment from a single 2D image." *Computers & Graphics* 107 (2022): 172-185.
- [7] Gupta, S.K., Singh D.P., Jaytrilok Choudhary. "A review of clique-based overlapping community

- detection algorithms." *Knowl Inf Syst* (2022). <https://doi.org/10.1007/s10115-022-01704-6>
- [8] Nandanwar, Amit Kumar, and Jaytrilok Choudhary. "Semantic Features with Contextual Knowledge-Based Web Page Categorization Using the GloVe Model and Stacked BiLSTM." *Symmetry* 13.10 (2021): 1772.
  - [9] Solanki, Surendra, Vasudev Dehalwar, and Jaytrilok Choudhary. "Deep learning for spectrum sensing in cognitive radio." *Symmetry* 13.1 (2021): 147.
  - [10] Amit Kumar Nandanwar, Jaytrilok Choudhary and Dhirendra Pratap Singh, "Web Search Personalization based on the Principle of the Ant Colony", Procedia Computer Science, Vol. 189, 2021, Pages 100-107. <https://doi.org/10.1016/j.procs.2021.05.073>.
  - [11] Amarja Indapwar, Prateek Dwivedi and Jaytrilok Choudhary, Sri Khetwati Saritha, Dhirendra Pratap Singh, "Logo Detection System for Live Videos", International Journal of Advanced Science and Technology, 29(9s),(2020):7455-7461.
  - [12] Thakur, Shailesh Kumar, Dhirendra Pratap Singh, and Jaytrilok Choudhary. "Lung cancer identification: a review on detection and classification." *Cancer and Metastasis Reviews* (2020): 1-10.
  - [13] Kumar, Amit, and Choudhary, Jaytrilok. "Web Page Categorization based on Images as Multimedia Visual Feature using Deep Convolution Neural Network". *International Journal on Emerging Technologies* 11(3), (2020): 619-625.
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  - [15] Ankit Temurnikar, Pushpneel Verma and Jaytrilok Choudhary, "Vehicular Ad-hoc Network Security and Data Transmission: Survey and Discussions", Journal of Emerging Technologies and Innovative Research (JETIR) 2019.
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## 2. Conference Publications

- [1] Rohit Yadav, Nikhil Nigam, Dhirendra Pratap Singh, and Jaytrilok Choudhary, "Improving Vehicle Detection using Ghost Convolution and GhostBottleneck layers in YOLOv5s", in 2nd International Conference on Computational Intelligence and Sustainable Engineering Solutions (CISES-2023) 28 April 2023.
- [2] Kondabathula Vishwatej, Jaytrilok Choudhary, and Dhirendra Pratap Singh, "Nutrition Estimation and Dietary Assessment in Indian Food through Deep Learning", 11th International conference on Contemporary Engineering and Technology. 1 - May- 2023. (Under review in: Engineering and Applied Science Research Journal).
- [3] Ashley Varghese Joy, Jaytrilok Choudhary, and Dhirendra Pratap Singh, "Improved Semi Supervised Image Classification using Generative Adversarial Networks", 11th International Conference on Contemporary Engineering and Technology, May 2023 Date of conference: 1/May/2023(Under review in: Engineering and Applied Science Research Journal).
- [4] Jaideep Gupta, Jaytrilok Choudhary, and Dhirendra Pratap Singh, 'A Robust Stock Price Prediction using improved Linear Regression Model with LSTM improved Feature Selection", THE 14th International Conference On Computing, Communication And Networking Technologies (ICCCNT 2023) · July 6th - 8th, 2023. IIT - Delhi, Delhi India.
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- [20] Ankit Temurnikar, Pushpneel Verma and Jaytrilok Choudhary, "Securing Vehicular Adhoc Network against malicious Vehicles using Advanced Clustering Techniques", *In the proceeding of 2nd IEEE International Conference on Data, Engineering and Applications*, 2020
- [21] Ankit Temurnikar, Pushpneel Verma and Jaytrilok Choudhary, "A Survey: Routing Protocol Security Algorithm and Simulation in VANET", *In proceeding of International Conference on Emerging Trends in Information Technology and Data Science*, 2020.
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### Educational Qualification

Year	Degree/Program	Board University
2013	Ph.D.	Maulana Azad National Institute of Technology, Bhopal
2002	M.E.	College of Engineering. Badnera, Amravati University(M.S)
1995	B.E.	College of Engineering. Badnera, Amravati University(M.S)

### Teaching Experience

Organization	Start Date	End Date	Designation	Nature of Work
Maulana Azad National Institute of Technology Bhopal, Madhya Pradesh	July 2005	Till Date	Assistant Professor	Teaching & Research
Oriental Institute of Science & Technology, Bhopal (M.P.)	July 2002	June 2005	Lecturer & Sr. Lecturer	Teaching & Administration
Barkatullah University, Bhopal(M.P.)	Jan 2000	June 2002	Lecturer	Teaching
College of Engineering. Badnera, Amravati University. (M.S.)	Oct 1997	Dec 1999	Lecturer	Teaching
B.N College of Engineering, Pusad (M.S.)	July 1995	Sept.1997	Lecturer	Teaching

### Ph.D. Supervised/Ongoing

Name of the Student	Topic	Year of Award	Co-Supervisor (if any)
Priyank Jain	Improved Input- Output Privacy Mechanism for Big Data	2019	Nil
Shweta Saxena	Machine Learning Models for Computer-Aided Cancer diagnosis Using Histopathological Data	2021	Nil
Anjana Deen	Improved machine Learning Models for Protein Function Prediction From Amino acid Sequence	2021	Nil
Arvind Kumar	Design & Development of approaches for reducing the data complexity issues associated with real world problems	Ongoing	Dr. Sanyam Shukla
Sowkarthika B	Efficient Data Complexity based machine learning for Real World problems	Ongoing	Dr. Rajesh Wadhvani
Abhishek Jadhav	Attention Based Computational Models for Medical Image segmentation	Ongoing	Dr. Akhtar Rasool (Supervisor)
Bhavna Swarnkar	Early Diagnosis of Gynecological Cancers using Machine Learning	Ongoing	Dr. Nilay Khare
Debangana Ram	Big Data Privacy	On-going	Dr. Akhtar Rasool
Saima Hasib	Quantum Computing	On-going	Dr. Akhtar Rasool (Supervisor)

### Patents

Title	Year	Agency	Published/Granted
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A Method for Enhanced Encryption in HADOOP Based Distributed Cluster	3 Nov 2021	Australian Government, IP Australia	Granted
A smart Agriculture System and Method Integrated With IOT Devices	19 March 2021	Ministry of Commerce and Industry, Govt. of India	Published
System & Method of Detecting & regulating Parameters in a Green House Environment	7 Nov 2020	Ministry of Commerce and Industry, Govt. of India	Published

Publications			
<b>Journal Papers</b>			
<ol style="list-style-type: none"> <li>1. Jain Priyank, Manasi Gyanchandani, and Nilay Khare. "Big data privacy: a technological perspective and review." <i>Journal of Big Data</i> Vol 3, ISSN 21961115,1-25, 2016 (SCIE)</li> <li>2. Jain Priyank, Manasi Gyanchandani, and Nilay Khare. "Differential privacy: its technological prescriptive using big data." <i>Journal of Big Data</i>, Vol 5, issue 1, ISSN 21961115 (2018): 1-24. (SCIE)</li> <li>3. Jain Priyank, Manasi Gyanchandani, and Nilay Khare. "Enhanced secured map reduce layer for big data privacy and security." <i>Journal of Big Data</i> Vol 6, issue 1, ISSN21961115 (2019): 1-17. (SCIE)</li> <li>4. Deen Anjna J., and Manasi Gyanchandani. "Improved machine learning using adaptive boosting algorithm in membrane protein prediction." <i>International Journal of Innovative Technology and Exploring Engineering</i> 8.12 (2019): 3131-3137. (Scopus) ISSN 22783075</li> <li>5. Bauskar S., Jain P., Gyanchandani M., A Noninvasive Computerized Technique to Detect Anemia Using Images of Eye Conjunctiva, <i>Pattern Recognition and Image Analysis</i>, Vol 29, pp 438-446, ISSN 10546618(SCOPUS),2019</li> <li>6. Jain Prakhar, Shubham Bauskar, and Manasi Gyanchandani. "Neural network based non invasive method to detect anemia from images of eye conjunctiva." <i>International Journal of Imaging Systems and Technology</i>, Vol 30, No.1 (2020): 112-125. (Wiley) (SCIE), ISSN 8999457</li> <li>7. Saxena Shweta, Sanyam Shukla, and Manasi Gyanchandani. "Pre-trained convolutional neural networks as feature extractors for diagnosis of breast cancer using histopathology." <i>International Journal of Imaging Systems and Technology</i>, Vol 30, issue 3, ISSN 8999457,577-591. 2020 SCIE</li> <li>8. Saxena Shweta, and Manasi Gyanchandani. "Machine learning methods for computer-aided breast cancer diagnosis using histopathology: a narrative review." <i>Journal of medical imaging and radiation sciences</i>, vol 51, no. 1, ISSN: 19398654, (2020): 182-193. (Scopus)</li> <li>9. Jain Priyank, Manasi Gyanchandani, and Nilay Khare. "Improved k-anonymize and l-diverse approach for privacy preserving big data publishing using MPSEC dataset." <i>Computing and Informatics</i>, vol 39, issue 3 (2020): 537-567. (SCIE) ISSN 13359150</li> <li>10. Deen Anjna Jayant, and Manasi Gyanchandani. "Pseudo amino acid feature-based protein function prediction using support vector machine and k-nearest neighbors." <i>International Journal of Advanced Computer Science and Applications</i>, Vol 11, No. 9 (2020). (Scopus)pp 187-195, ISSN 2158107X</li> <li>11. Saxena Shweta, Sanyam Shukla, and Manasi Gyanchandani. "Breast cancer histopathology image classification using kernelized weighted extreme learning machine." <i>International Journal of Imaging Systems and Technology</i>, vol 31, issue 1 (2021): 168-179. (SCIE) ISSN 8999457</li> </ol>			

12. Sowkarthika B., Gyanchandani, M., Wadhvani, R., & Shukla, S. (2023). Data complexity-based dynamic ensembling of SVMs in classification. *Expert Systems with Applications*, Vol. 216, 119437. (SCIE), ISSN 9574174
13. Jadhav Abhishek, Akhtar Rasool, and Manasi Gyanchandani. "Quantum Machine Learning: Scope for real-world problems." *Procedia Computer Science* 218 (2023): 2612-2625. International Conference on Machine Learning and Data Engineering (Scopus) ISSN 1877-0509
14. Mh Asif Kamal, Manasi Gyanchandani, & Anil Kumar Kushwah, "A novel time series data clustering approach for wind speed forecasting", *Wind Engineering*, Vol 46 Pg : 1281-1290 ISSN: 0309-524X,2022
15. Priyank Jain, Manasi Gyanchandani, Nilay Khare, Dhirendra Pratap Singh, Lokini Rajesh, "A Survey on Big Data privacy using Hadoop Architecture" *International journal of computer science and network security* vol. 17 no.2. 2017.
16. Priyank Jain, Manasi Gyanchandani, Nilay Khare, "A Survey on Security and Privacy Concerns in Healthcare Big Data", *International Journal of Computer Science Engineering and Information Technology Research (IJCSEITR)*, Special Issue, Nov 2016, 101-120.
17. Sanyam Shukla, Rajesh Wadhvani, Jyoti Bharti, Manasi Gyanchandani, "Voting based Extreme Learning Machine with search based Ensemble Pruning", *International Journal of Computer Science and Network Security (IJCSNS)*, VOL.17 No.3, February 2017.
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19. Manasi Gyanchandani, R. N. Yadav, J. L. Rana, "Intrusion Detection using C4.5: Performance Enhancement of Classifier Combination", *ACEEE International Journal on Signal & Image Processing*, 2010
20. Manasi Gyanchandani, R. N. Yadav, J. L. Rana, "Taxonomy of Anomaly Based Intrusion Detection System: A Review", *International Journal of Scientific and Research Publications*, Dec 2012
21. Manasi Gyanchandani, R. N. Yadav, J. L. Rana, "Search for Optimized Cost matrix for Performance Enhancement of Anomaly based Intrusion detection system using Cost Sensitive Classifier", *The International Journal of Computational Science, Information Technology and Control Engineering (IJCSITCE)*, July 2014
22. Divya Srivastava, Rajesh Wadhvani, Manasi Gyanchandani A Review: Color Feature Extraction Methods for Content Based Image Retrieval, *IJ of Computation Engg. & Mangt.* Vol. 18, Issue 3 May 15
23. Nitesh Pradhan, Manasi Gyanchandani, Rajesh Wadhvani, "A Review on Text Similarity Technique used in IR and its Application", *International Journal of Computer Applications*, Volume 120 – No.9, June 2015
24. Tarang Kumar, Manasi Gyanchandani, Rajesh Wadhvani," Android Malware Analysis: A Survey" *International Journal of Control, Automation, Communication and Systems (IJCACS)*, Vol.1, No.1, July 2015
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## Conference

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- International Students' Conference on Electrical, Electronics and Computer Science (SCEECS) (pp. 1-6), Bhopal India IEEE, 18-19 Feb 2023 (SCOPUS) ISBN979-835039874-8
2. Choudhary, R., Kashyap, J.K., Shukla, S., Gyanchandani, M., "Feature Selection in Under bagging Based Kernel ELM for Handling Class Imbalance Dataset Classification", Workshop on Control and Embedded Systems, 22 - 24 April, 2022 WCES 2022; Virtual, Online; India, Volume 3314, Pages 23-30, CEUR Workshop Proceedings. ISSN 16130073
  3. Patel, V., Shukla, S., Gyanchandani, M. , "Analysis of Different Loss Function for Designing Custom CNN for Traffic Sign Recognition", Workshop on Intelligent Systems, 22-24 April 2022; WINS 2022; Virtual, Online; India; Volume 3269, 2022, Pages 31-38, CEUR Workshop Proceedings. ISSN: 16130073
  4. Panday, V., Wadhvani, R., Gyanchandani, M. "Selective Review on Adaptive Normalization Techniques", Workshop on Intelligent Systems, 22 - 24 April 2022 WINS 2022; Virtual, Online; India; 22, Volume 3269, 2022, Pages 51-59, CEUR Workshop Proceedings, ISSN: 16130073
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  7. Khare, P., Wadhvani, R., Gyanchandani, M., & Brahma, B. (2022). Generating Data for Real World Time Series Application with GRU-Based Conditional GAN. 2nd International Conference on Data Science and Applications, 10- 11 April 2021,ICDSA 2021; Virtual, Online; ;, Volume 2 (pp. 335-349). Springer Singapore.Lecture Notes in Networks and Systems Volume 287, 2022, Pages 335-349, ISSN: 23673370 ISBN: 978-981165347-6
  8. Joshi, Mayank, Manasi Gyanchandani, and Rajesh Wadhvani. "Analysis Of Genetic Algorithm, Particle Swarm Optimization and Simulated Annealing On Benchmark Functions." 2021 5th International Conference on Computing Methodologies and Communication,8 – 10 April 2021, IEEE, 2021., , Pages 1152-1157 ISBN: 978-166540360-3
  9. Deen Anjna Jayant, and Manasi Gyanchandani. "Machine learning classifiers based on predicting membrane protein using decision tree and random forest." 2020 Fourth International Conference on Inventive Systems and Control (ICISC) 8 -10 January 2020. IEEE, 2020, ISBN: 978-172812813-9
  10. Deen Anjna Jayant, and Manasi Gyanchandani. "Sequence based Prediction of Membrane Protein Types using Machine Learning methods.", International Conference on IoT based Control Networks and Intelligent Systems (ICICNIS 2020), 10-11, December 2020 (2020). Pp 839-847, Kottayam, Kerala, India on., 2367-3370
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  12. Utkarsh Ritumbhra, and Manasi Gyanchandani. "Survey on classification techniques applied to intrusion detection system and its comparative analysis", 4<sup>th</sup> International Conference on Communication and Electronics Systems, 17-19 July 2019,ICCES 2019; Coimbatore; India; Pages 1451-1456, ISBN: 978-172811261-9
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- Computing and Control Systems (ICICCS). IEEE, 2018., 2nd International Conference on Intelligent Computing and Control Systems, 14-15 June 2018, ICICCS 2018; Vaigai College of Engineering (VCE)Madurai; India, Pages 1974-1978, ISBN: 978-153862842-3
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  18. Akhil, V., Wadhvani, R., Gyanchandani, M., &Kushwah, A. K. (2021). Clustering-Based Hybrid Approach for Wind Speed Forecasting. In Proceedings of Data Analytics and Management: , International Conference on Data Analytics and Management - 2021 ICDAM 2021, 26 june 2021 Volume 1 (pp. 587-598). ISSN: 978-981-16-6288-1
  19. Shali, Y., Brahma, B.,Wadhvani, R., & Gyanchandani, M. (2020, July). Attention LSTM for Time Series Forecasting of Financial Time Series Data. In International Conference on Internet of Things and Connected Technologies IIT Patna 03-05 July 2020 (pp. 74-84). Cham: Springer International Publishing. Chapter & conference paper Book : Published in: Internet of Things and Connected Technologies, Publisher: Springer International Publishing ISSN 2194-5357
  20. Kumar A., Gyanchandani M., Jain P. "A comparative review of privacy preservation techniques in data publishing", Proceedings of the 2nd International Conference on Inventive Systems and Control, ICISC 2018, Coimbatore; India; 19- 20 January 2018, pp 1027-1035,ISBN: 978-153860807-4
  21. Vaishali Shrivastava, Manasi Gyanchandani, "A Review Paper On Pre And Post Accident Detection And Alert System: An IOT Application For Complete Safety Of The Vehicles", International Conference on Electrical, Electronics, Communication, Computer, and Optimization Techniques (ICEECCOT), Mysuru,14-15 Dec 2018
  22. Malpani, V., Shukla, S., Gyanchandani, M., Shrivastava, S. (2023). Customized CNN for Traffic Sign Recognition Using Keras Pre-Trained Models", International Conference on Innovative Computing and Communications. ICICC 17-18 Feb 2023, Delhi India, Lecture Notes in Networks and Systems, vol 537. Springer, Singapore. ISBN 978-981-99-3009-8
  23. Naveen Saini, Manasi Gyanchandani, Debangana Ram, "Multi-Headed CNN and Vision Transformer-Based Diabetic Retinopathy Classification", 14th International Conference on Computing, Communication and Networking Technologies (ICCCNT), July 6th - 8th, 2023 at IIT - Delhi, Delhi, India, IEEE.

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25. Priyank Jain, Manasi Gyanchandani, Nilay Khare, "Big Data Security and Privacy: New Proposed Model of Big Data with Secured MR layer", 5th International Doctoral Symposium on Applied Computation and Security Systems Kolkata (ACSS-2018).
26. Priyank Jain, Manasi Gyanchandani, Nilay Khare, "Improved k-anonymity Privacy Preserving Algorithm using Madhya Pradesh Election Commission Big Data" 2nd International Conference on Integrated Intelligent Computing, Communication & Security Bangalore (ICIIC - 2018).
27. Manasi Gyanchandani, J L Rana, R N Yadav, "Intrusion Detection using C4.5: Performance Enhancement of Classifier Combination", International Conference on Advances in Computer Science, 20 - 21 Dec 2010, Trivandrum, Kerala
28. Manasi Gyanchandani, R. N. Yadav, J. L. Rana, "Impact of Normalization on Feature Selection for Anomaly Based Intrusion Detection System" , International Conference on Computer Science and Software Engg, 9-11, December 2011, Wuhan, China
29. M. Gyanchandani, Shailya Singh, "Maintainability Prediction using Bayesian Belief Network with Architecture Assessment", Dept of CDE, CUSAT, INDIA, 26-27 April 2007
30. A. Khapekar, Y. Pandey, M. Gyanchandani, S. Shukla, "Intrusion Detection System based on Feature Selection & Classification Algorithms", National Conference on Recents Trends & Challenges in Internet Technology, 19-20 March 2010, MANIT, Bhopal.
31. A. Mewada, R. K. Pateriya, M. Gyanchandani, S. Shukla, "Intrusion Detection using SVM: A Review", National Conference on Recents Trends & Challenges in MANIT, Bhopal Internet Technology,
32. Shruti Singh, M. Gyanchandani, "Botnet & Distributed Denial of Service Attack" , National Conference on Recents Trends & Challenges in Internet Technology, 19-20 March 2010, MANIT, Bhopal.
33. Jitendra Gupta, Manasi Gyanchandani, "Integration of 3D Images & Conversion into Pseudo 3D images", National Conference on Modern Trends & Information Technology, 30 & 31 Oct 2010, College of Science & Engg. Jhansi

#### **Book Chapter**

1. Jain Priyank, Manasi Gyanchandani, and Nilay Khare. "Data Privacy for Big Data Publishing Using Newly Enhanced PASS Data Mining Mechanism." Chapter 10 Data Mining. IntechOpen Limited, 2018.ISBN 978-1-78923-597-5
2. Swarnkar Bhawna, Nilay Khare, and Manasi Gyanchandani. "Survey of Deep Learning Methods in Image Recognition and Analysis of Intrauterine Residues." Machine Learning and Deep Learning in Medical Data Analytics and Healthcare Applications. CRC Press, Jan 2022. 151-168. (Book Chapter) ISBN :978-100053393-4;978-103212687-6, Edition 1
3. Jain Priyank, Manasi Gyanchandani, and Nilay Khare. "Big data security and privacy: New proposed model of big data with secured MR layer." Advanced Computing and Systems for Security: Volume Eight (2019): 31-53. (Book Chapter) ISBN 9811337012, ISBN 9789811337017 Publisher: Springer, Singapore
4. Jain Priyank, Manasi Gyanchandani, and Nilay Khare. "Improved k-anonymity privacy-preserving algorithm using Madhya Pradesh State election commission big data." Integrated Intelligent Computing, Communication and Security (2019): 1-10. (SCIE) pp. 537-567Studies in Computational Intelligence, Volume 771, 2019, Pages 1-10, 1860949X



# CURRICULUM VITAE

## Dr. MANISH PANDEY

Associate Professor, Department of Computer Science and Engineering,  
Maulana Azad National Institute of Technology  
Bhopal, M.P., India (462003)  
Mobile Number: 9826296048  
Email: [contactmanishpandey@yahoo.co.in](mailto:contactmanishpandey@yahoo.co.in)

Date of Birth: 19-April-1976



### Educational Qualification

Degree	Institute	CGPA/%	Year	Specialization
Under-graduate	Barkatullah University (LNCT Bhopal)	70.2 %	2000	Computer Science & Eng.
Post Graduate	MANIT Bhopal	9.92 CGPA	2009	Computer Science & Eng.
PhD	MANIT Bhopal	NA	2015	Computer Science & Eng.

### Area of Interest

- Algorithms
- Parallel Processing
- High Performance Computing
- Operating System

### Work Experience

Designation	Organization	From	To	Nature of work
Associate Professor	MANIT Bhopal	Dec 2023	Till date	Teaching/Research
Assistant Professor	MANIT Bhopal	15-07-2010	Dec 2023	Teaching/Research
Assistant Professor	MANIT Bhopal	15-07-2005	15-07-2010	Teaching/Research

### Teaching

Undergraduate Courses	Post Graduate courses
Data Structure and Algorithms	Graph Theory and Algorithms
Analysis and Design of Algorithms	Operating System Design
Theory of Computation	Parallel Algorithms
Operating Systems	

### New Lab/ Setup a new Network research Lab/Modernization of existing Lab (in last 5 years):

1. HPC Cluster at CCF MANIT Bhopal
2. Data Center facility at MANIT Bhopal
3. AI Computing Lab

## **Research**

### **Papers Published:**

Papers	National (Total/ in last 5 years)	International (Total/in last 5 years)
Journals	NIL	13
Conference/Book Chapters	NIL	18

### **Guidance:**

	<b>Completed</b>	<b>Completed in last 5 years</b>	<b>On going</b>
<b>Masters' levels</b>	38	15	7
<b>Ph.D.</b>	1	1	5

### **R&D Projects:**

Submitted a Research Project Proposal entitled “A Software Defined Real Time Monitoring System for Detecting Insect Infestation in Stored Food Grain”.

### **Consultancy Projects:**

#### **Completed:**

Bhopal Medical Hospital and Research Center (BMHRC)	4.93 Lacs
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### **Major Outreach Program (last five years)**

1. Committee Member for reviewing Tender Document / Specifications for Annual Maintenance Contract of Computer Hardware/Software AMC and Managed Operations for BMHRC, Bhopal
2. Expert Lecture at SIRT, Bhopal on “Concept of Operating System and recent trends”.
3. Expert Lecture LNCT, Bhopal on “GPU Computing”
4. Committee member for syllabus design at RGPV
5. Member WORKBOOK design at PSS Central Institute for Vocational Education.

### **Significant Contribution to Administration at Dept/Institute level (last 10 years)**

1. Member AIEEE Counseling 2006
2. Coordinator TEQIP MCA 2006
3. Coordinator Techno search 2015
4. Physical stock verification 2006
5. Central Library stock verification
6. Member Anti Ragging Committee during three semesters
7. Institute Coordinator Online feedback of students.
8. AICTE Nominee for governing body
9. DUPC Coordinator during four semesters
10. B.Tech Project coordinator for 10 semesters.
11. DPPC Member for two semesters

## **Vision for next Five year**

- To conduct and strengthen computer science research that could have benefited or have positive impact on society and to submit research project proposals in this regard.
- Interdisciplinary research in some practical application area of computer Science

## **Required Institute Support to Achieve above Vision**

1. Research project proposals generally require some preliminary work to be done in relevant area. For carrying out such work adequate research facilities/resources is to be provided by institute in transparent and simple procedure. Progress can later on be monitored by authorities if and when required
2. Uniform policies grant and allocation of research facilities.
3. Adequate number of research scholar at Ph.D. level be allotted, especially to younger faculties, so as to assist in research work.
4. Free access to online reputed resources

## **Any Suggestion to Improve NIRF Ranking, Placement, Infrastructure, and Administration**

1. Core component of any educational institute is TEACHING. Every faculty member, irrespective of the cadre, should take 6 to 8 theory classes. Proper monitoring to fix accountability.
2. More research responsibilities to youngers.
3. Imparting training to faculties at premier institutes for getting them trained for recent Research trends and other research related activities

# CURRICULUM VITAE

## Dr. DEEPAK SINGH TOMAR

Professor, Department of Computer Science and Engineering,  
Maulana Azad National Institute of Technology  
Bhopal M.P. India (462003)  
Phone: (Off) 0755-4051304, (Res) 0755- 3594068  
Mobile Number: 09827225851  
E-mail: deepaktomarmanit@gmail.com



**Date of Birth:** 28-October-1970

### Qualification

- Ph.D. (Computer Science and Engineering), M.Tech & B.E. Computer Technology

### Research Area

- Cyber Security & Cyber Forensics
- Data Mining
- Internet Technology
- Network Security
- Machine Learning

### PhD Guided

- 10 Completed and 04 Ongoing

### UG Project and PG Thesis Guided

- B Tech - 120
- M.Tech. - 56 Completed and 04 Ongoing
- MCA – 12

### Publication

- International Journal – 53
- International Conference – 19
- National Conference – 18
- Book Chapter – 08

### Members of Professional Bodies

- IEEE - membership number : 92244602
- International Association of Computer Science and Information Technology (IACSIT)-membership number : 80343008
- Computer Science Teachers Association (CSTA) - membership number : 4099277
- International Association of Engineers(IAENG)-membership number : 120587
- International Webmasters Association (IWA)

### Countries Visited

- Australia
- Singapore
- China
- Hong Kong

**Project /Consultancy Undertaken**

- Investigator of Project titled "Information Security Education and Awareness (ISEA), MHRD Govt of India Project"
- Investigator of Project titled " Development of a Web based personalized Retrieval System for retrieving learning materials to support E-learning" of worth 9.73 lakhs
- Investigator of Project titled "To Assess the Impact of 'Advance Training for Professionals' Short Term Professional Course for IT/ITES sector", Sponsored by ABV-IIITM Gwalior Funded by Ministry of Communication and Information Technology, New Delhi
- Consultancy: - Software Team Leader for acceptance testing of HMS at Bhopal Memorial Hospital & Research Center ( BMHRC ) - Total Amount 4.93 Lac(year 2007).
- Development of IoT Device for Security Auditing of Web Applications, TEQIP Collaborative Research Scheme, National Project Implementation Unit, Govt. of India.
- Individual Consultancy to Cyber Police, BHEL Bhopal,School of Good Governance & Policy Analysis, Govt of MP,Apex Bank, Bhopal

**Details of Honour and awards obtained**

- Chairing a conference session in IEEE - International Conference on Software and Computing Technology 2010 at Kunming, China.
- Co-Chairing a conference session in IEEE 7th International Conference on Computer Science & Education 2012 at Melbourne, Australia.
- Student Programming Coach of ACM-ICPC Asia Region Kanpur Site Contest 2010 at IIT Kanpur.
- Keynote speaker in International Conference on Information Science organized by College of Engineering Cherthala, in collaboration with the Computer Society of India (CSI) , Kochi (July 2014)

**Past Experience**

- Lecturer(Gazetted Post Selected from MP PSC, 8000-13500 V<sup>th</sup> Pay Scale) Department of Technical Education, Govt. of Madhya Pradesh, India
- Visiting Faculty
  - ABV-Indian Institute of Information Technology and Management , Gwalior
  - Indian Institute of Science Education & Research(IISER), Bhopal
  - Govt. Engineering College, Bhopal
  - IIITM, Jabalpur
- Academic Counsellor for I.G.N.O.U. (M.C.A./B.C.A./B.I.T.) – Reg. No. 00282

**Administrative Work Done**

- Chairman Cyber Security Centre
- Convener, MANIT Central Computing Facility
- Professor In-charge, ERP and Software Development Cell
- Professor In-charge, hackathon
- Assistant Proctor (2017 to 2019)
- Professor In-charge, Institute Web Site ([www.manit.ac.in](http://www.manit.ac.in)) (2007 to Aug 2017)
- PG Coordinator M.Tech CSE and M.Tech IS (2006 to 2007 & 2011 to 2016)
- DUPC Coordinator CSE(Since 2019)
- Nodal Officers (TEQIP) for : Academic Activities(Since 2014)
- Exam Coordinator (CSE & IT) June 2008
- Member of Institute Networking Committee
- Technical Advisor of MANIT Alumni Coordination Cell

- Convener of publicity committee 7<sup>th</sup> convocation 2010
- Help Centre In charge for AIEEE Counselling 2010 and 2011
- Co convener of Publicity Committee for International Conference ( ICARE 2010)
- Member of Committee for enabling web services of MANIT through MP online
- Member of Committee for finalizing and standardization of configuration of Computer and Peripheral
- Member of committee for Library automation
- Media & Publishing In-charge for Techno search & Maffick
- Develop Software for relative grading System for B.Tech & M.Tech
- Member of choice locking team of AIEEE counselling 2009-2010

#### **Program Organized**

- Coordinator of Online Hackathon on Innovation in Toy Technology including Online Games (29-30 January 2021)
- Coordinator of On-line Short Term Training Program on “Cyber Security & Digital Forensics” (CSDF-2020) (23-27 November 2020)
- Coordinator of Security and Privacy in Digital Era for MANIT Women Faculty and Staff (22-23 April 2019)
- Coordinator of Workshop on Ethical Hacking and Smart Search for School Students(29 Nov 2019)
- Coordinator of workshop on “INFORMATION SECURITY & DIGITAL FORENSICS”(16-20 April 2018)
- Coordinator of workshop on Cyber Security Threats and Forensics (23-24 March 2017)
- Coordinator of workshop on Cyber Forensics: Fundamentals and Advancement (27-29 Jan 2016)
- Coordinator of workshop on Smart Grid (20-21 Jan 2015)
- Coordinator of STTP-Issues in Computer Security and Privacy (22-26 Jun 2015)
- Coordinator of workshop on Energy Management in Smart Grid through Soft Computing Techniques (13-15 Jan 2014)
- Coordinator of workshop on STTP- Network Forensics (05-06 Mar 2014)
- Coordinator of workshop on Network Enumeration and Security (20-22 Jan 2014)
- Coordinator of workshop on Development of Web based Data Repository: Case Study for MANIT Students (07-09 Oct 2013)
- Coordinator of computer Training Program for Non teaching staff (03-07 Dec 2012)
- Coordinator of computer Training Program for Non teaching staff (17-21 Dec 2012)
- Coordinator of workshop on Digital Forensics WSDF 2010 organized at MANIT ISEA Project (18-20 Feb. 2010)
- Coordinator of workshop on “Disaster Management “ ( July 2010)
- Coordinator of workshop on enhancement of institute web site “ ( 2009 )
- Coordinator of Short Term Training Program on “ Cyber Crime & Cyber Forensic “ organized at MANIT under TEQIP & ISEA Project (2007)
- Assistant Coordinator of One week workshop on “Cost Effective Design of Intranet for Directorate of Technical Education”.
- Deputy Coordinator of One week WID Training program was conducted under Indo-Canada Scheme for Industry-Institute linkage and is aided by Canada Government (12-17 Feb 2001)

**Lectures Delivered-** Delivered more than 70 expert lectures at various organizations like

- CBI Central Bureau of Investigation (CBI)
- IIITM,Gwalior
- MNNIT Allahabad

- NSIT, Delhi
- NIT Arunachal Pradesh
- College of Engineering Cherthala Kerala
- Goa Engineering College Goa
- MP Police Cyber Crime Cell
- Bank of India
- Jabalpur Engineering College (TEQIP Program)
- UIT,RGPV,Bhopal
- SOIT,RGPV,Bhopal
- Bank of India Training Centre, Bhopal
- BIST under CSI Chapter Bhopal
- GTU, Ahmedabad
- BHEL Bhopal,
- NSIT, Delhi
- M.P. Police Academy Bhouri,
- National Institute of Technical Teachers' Training & Research (NITTTR) Bhopal
- NIELIT, Aurangabad
- Jaypee University of Engineering & Technology, Guna
- Cyber Security Center, Gujrat Technical University
- MM College of Engineering, Pune.
- NIT Jalandhar
- College of Technology, GBPUAT Pantnagar,
- Rajiv Gandhi National Institute of Youth Development Sriperumbudur (TN)

**Established New Lab** – Established 3 new labs.

	Name of Laboratory	Organization	Year of Establishment of Lab
1.	Vision Lab	MANIT, Bhopal	2016-2017
2.	ISEA- Cyber Forensics Lab	MANIT, Bhopal	2015
3.	Network Security	MANIT, Bhopal	2012
4.	HPC & data centre	MANIT, Bhopal	2021

#### **Project/Software Development**

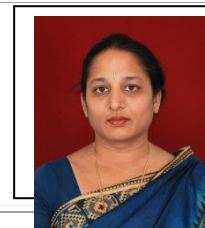
- Developed software for NIMCET 2012 Counselling
- Developed MANIT web site based on Web Content Management ( JOOMLA 1.6)
- Developed Credit System for M.Tech & B.Tech Exam System at MANIT
- Software for Multi Point Entry & Credit System. This system is now implemented at 50 Polytechnic institutes of MP state. Done in FOX PRO. I was the team leader of the project managing a team of 7 programmers.
- Software for on line counseling of about 15000 students seeking admissions to Engineering Colleges, Polytechnic institutes, and other professional institutes of state. The counseling was carried out on a network of 8 computers running on Lantastic server. My role was that of the team leader. (1998-2003)
- Member of software development team involved in system development under Indo-Canada Scheme for Industry-Institute linkage and is aided by Canada Government. The project was targeted at developing an Intranet for all the Polytechnics and Engineering Colleges of MP state.

- Web site of M.P. Board of Technical Education on line result of various Diploma Program's (ASP, Active X, COM features are used in the Project)
- Member of WEB PAGE DESIGNING team for Directorate of Technical Education
- Developed Budget monitoring system for Directorate of technical education
- Developed Software for Pharmacy Counselling 1998.

**Other Activities –**

- Expert Member of Uttar Pradesh Public Service Commission(UPPSC), PRAYAGRAJ.
- Subject Expert of Madhya Pradesh Public Service Commission(MPPSC), Indore.
- Member of Personal Interview Board, National Law Institute University(NLIU), Bhopal Guest Speaker in Doordarshn Bhopal(2019)
- Interview and Talk on Internet Maturity, Prasar Bharti, All India Radio, Bhopal (Apr, 2017)
- Conducted Session to Police Officer at Rajasthan Police Academy, Jaipur (Apr, 2017)
- External expert to review the students of Master of Engineering & Ph.D at Gujarat Technological University (GTU), Ahmadabad (Mar 2017)
- Member of Board of Study, The Bhopal school of Social Sciences (BSSS) (2015-17)
- Expert member of Scrutiny committee for “Award for Excellence in e-Governance”, MAP IT, Govt of MP (2016)
- AICTE observer for CMAT and GMAT (Feb 2015)
- Member of Technical Committee, State Cyber Police, Bhopal (2012-13)
- Expert member of Syllabus and Scheme preparation committee of Atal Bihari Vajpayee Hindi Vishwavidyalaya Bhopal (2013-14)
- Act as a Judge in Annual Inter Unit Business Application and System Development Meet at BHEL, Bhopal (Dec 2013)
- Session Chair in IEEE conference at Kunming , China (Oct 2010)
- Presented Paper in 7th International Conference on Computer Science & Education (ICCSE), 2012 at Melbourne, VIC, Australia (Jun, 2012)
- Expert member of interview panel for staff recruitment in Development Commissioner Office Bhopal, MPPEB Bhopal, UIT RGPV Bhopal , SGPA Bhopal, IIITM Jabalpur and Pollution control board, Bhopal.
- Observer for AIEEE, PET, PMT , MCA ,MBA & PPT Examination.
- Organised Gyan Dhara – I, A seminar for Computer Science Students of IGNOU Regional Center, Bhopal.
- Chairing paper presentation on various Engineering Colleges in India and China
- Member of State level committee of PAC software at APEX bank, Bhopal
- Editor of proceeding of National conference on Recent Trends & Challenges in Internet Technology organized by Department of CSE & IT , MANIT Bhopal.

**(Dr. Deepak Singh Tomar)**



## Dr. Meenu Chawla

<b>Designation</b>	Professor
<b>Address</b>	C – 3, Windsor Estate, Phase – I, Chuna Bhatti, Bhopal, M. P.
<b>Phone</b>	0755 – 4051302
<b>E-mail</b>	<a href="mailto:chawlam@manit.ac.in">chawlam@manit.ac.in</a>
<b>Date of Birth</b>	<b>30 – 11 – 1968</b>
<b>Educational Qualification</b>	Ph. D. (CSE), M. Tech. (CSE), B. E. (Computer Technology)
<b>Experience</b>	33 Years Teaching Experience (UG and PG) and Ph. D. Guidance
<b>Specialization</b>	Wireless Networking, Theoretical Computer Science, Artificial Intelligence, Machine Learning
<b>Publication</b>	<ul style="list-style-type: none"><li>• <b>International Journals – 40</b></li><li>• <b>National Journal – 2</b></li><li>• <b>National Conference – 2</b></li><li>• <b>International Conference – 26</b></li></ul> <p style="text-align: right;"><b>Total Published Paper <u>70</u></b></p>
<b>Member of professional bodies</b>	<ul style="list-style-type: none"><li>• CSI</li><li>• ISTE</li></ul>
<b>Achievements/ Awards</b>	<ul style="list-style-type: none"><li>• <b>Merit Certificate under National Scholarship Scheme, Govt. of MP (1985)</b></li><li>• <b>Merit Certificate under the Scholarship Scheme, Govt. of India (1986 - 1990)</b></li></ul>
<b>Number of P.G. Projects guided</b>	<ul style="list-style-type: none"><li>• <b>Ph. D. – 6 Completed, 5 in Progress</b></li><li>• <b>M. Tech. – 55+ Completed, 6 in Progress</b></li></ul>
<b>Project/ Consultancy undertaken</b>	<ul style="list-style-type: none"><li>• Development of Wireless and sensor network lab, a project funded by MHRD for Rs. 32 Lakh in 2011-2012. (Completed in 2012)</li><li>• Technology Incubation and Development of Entrepreneurs (TIDE), a project funded by Department of Information Technology Govt. of India. For Rs. 156.56 Lakhs 2011-2013.</li><li>• Co-investigator for the consultancy of Rs. 4.97 Lakhs for Software testing at BMHRC, Bhopal in 2006</li></ul>

	<ul style="list-style-type: none"> <li>• Co-investigator for M.P. Rural Livelihood Project for Rs. 19736/_ in 2004-05.</li> <li>• Co-investigator for Directorate of Health Services, Bhopal project for Rs. 50,000/_ in Jan 2005.</li> <li>• Taken classes in MPSTEP through ICSC MACT from Dec 2000 to Dec 2001 for MIT course.</li> </ul>
<b>Administrative work done</b>	<ul style="list-style-type: none"> <li>• Head – Department of Computer Science and Engineering from Aug 2006 to Aug 2008 (2Years).</li> <li>• Head – Department of Computer Science and Engineering from Sept 2017 to Sept 2019 (2Years).</li> <li>• Head – Center of Artificial Intelligence from October 2019 to October 2022 (3 Years).</li> <li>• Nodal Officer of IIIT Bhopal from Sept 2019 to May 2023.</li> <li>• Coordinator of Central Computing Facility from 2019 till date: Development details</li> <li>• Member of Institute Networking Committee.</li> <li>• Joint Secretary for MANIT TIDE 2014-15.</li> <li>• Chairperson of Institute Website Development Team (2007-2008): Web Site launched on 26th January 2007.</li> <li>• Overall In-charge of activity in the Computer Center for AIEEE counseling in 2007.</li> <li>• Nodal Officer for Website for Golden Jubilee 2009-2010.</li> </ul>
<b>Any other information</b>	<p><b><u>R&amp;D Interaction-</u></b></p> <ul style="list-style-type: none"> <li>• Developed HPC and Data Center Facilities at MANIT, Bhopal under Central Computing Facility (CCF) worth approx. 9 Crores</li> </ul> <p>CCF is equipped with HPC Clusters, VMWare Virtualization Clusters and NVIDIA DGX A 100. HPC comprises 400 CPU Cores, 1920 GB RAM and 120 TB SAS-based Storage. Virtualization Clusters allow Students to work with 24 – 36 Cores and 192 – 256 GB Memory at once. DGX A 100 provides GPU Cores with 320 GB GPU Memory, 1 TB System Memory and 15 TB System Storage to handle various loads, ranging from Analytics to Training to Inference.</p> <ul style="list-style-type: none"> <li>• Developed Center of Artificial Intelligence at MANIT, Bhopal</li> <li>• Developed Research Facilities for Wireless Networking Lab through TEQIP.</li> <li>• Investigator of Project titled " Wireless and Sensor Network Lab" worth 32 Lakhs</li> <li>• Co-coordinator for “Technology incubation and Development of Entrepreneurs (TIDE)” Project by DIT, Govt. of India worth Rs 1.56 Crores.</li> </ul>

### **Consultancy-**

- Co-investigator for Acceptance Testing of HMS at Bhopal Memorial Hospital & Research Center (BMHRC) - Total Amount 4.93 Lac.
- Co-investigator for MP Rural Livelihood Project for Rs 19,736/- in 2004-05.
- Co-investigator for Directorate of Health Services, Bhopal project for Rs 50,000/- in Jan 2005.

### **Details of Editor / Member of Editorial Board / Reviewer of Journals-**

- Program Committee Member for reviewing papers for Proceedings of SCEECS 2012 Students' Conference on Electrical, Electronics and Computer Science, organized by IEEE MANIT Students Branch.
- Member of Technical Review Committee for Proceedings of National Conference on "Recent Advances and Challenges in Internet Technology" held in March 2010.
- Program Committee Member for reviewing papers for Proceedings of CSNT2012 (International Conference on Communication Systems and Network Technology) held from 10/5/2012 to 13/5/2012.
- Program Committee Member for reviewing papers for Proceedings of CICN2012 (International Conference on Computational Intelligence and Communication Networks) held from 3/11/2012 to 15/11/2012.
- Reviewer for Proceedings of Theoretical Computer Science, Elsevier Publications, August 2013
- Reviewer for Proceedings of ICIT 2013 (International conference on Information Technology) held in February 2013.

### **Programs Organized-**

- Member of different Institutional Committees at MANIT, Bhopal.
- Patron at Five Days Online Workshop on "Data Mining and its Applications" at IIIT Bhopal from 7/3/2021 to 11/3/2021.
- Patron at Five Days Online Workshop on "Signal and Image Processing" at IIIT Bhopal from 22/3/2021 to 26/3/2021.
- Patron at Five Days Online Workshop on "Machine Learning and its Significance" at IIIT Bhopal from 5/4/2021 to 9/4/2021.
- Workshop on "Security and Privacy in Digital Era for MANIT Women Faculty and Staff" at MANIT, Bhopal from 22/4/2019 to 23/4/2019.
- Workshop on "Substance Abuse" at MANIT and IIIT, Bhopal from 4/11/2019 to 8/11/2019.
- Organized Webinar on "Internet of Things" on 29/5/2020. The invited speaker was Mr. Sudesh Morey, Founder and Managing Director of DRMZ System Innovations Private Ltd.

- Convener for Webinar on “Gender Bias Stereotyping, Gender Equality and Women’s Rights” organized on 22 June, 2020.
- Coordinator (Joint) for the National Conference on “Recent Trends and Challenges in Internet Technology (RTCIT)” held in March-2010.
- Chairperson for Short Term Course on Information Security organized on 10th -14th Dec 2007 in CSE department, MANIT, Bhopal.
- Chairperson for Short Term Course on Cyber crime and Cyber Policy organized on 17th -19th Dec 2007 in CSE department, MANIT, Bhopal.
- Coordinator for 2 Days EXata Network Emulator Software Workshop organized on 22-23 Feb. 2012.
- Coordinator (Joint) for 2 Days QualNet Training Phase-II organized on 1-2 Feb 2011 at Department of CSE, MANIT, Bhopal.
- Coordinator (Joint) for 2 Days QualNet Training Phase-I organized on 29-30 June 2010 at Department of CSE, MANIT, Bhopal.
- Coordinator (Joint) for 5 Days Lecture Series on ‘Image Processing’ in October 2003 at MANIT, Bhopal for final year students of CSE, IT and Electronics Departments.
- Co-coordinator for 2 Days Workshop on Windows and MS Word for continuing education of Faculty Members of MACT (1997-1998).

#### **Lectures Delivered-**

- UIT, RGPV, Bhopal
- “WhatsApp and Facebook Security” on 22/4/2019 and 23/4/2019 at MANIT, Bhopal
- MPSTEP through ICSC at MACT from December 2000 to December 2001 for MIT Course.
- In-House Computer Training Program at ADOT, Bhopal from December 1997 to March 1998.
- BHEL, Bhopal

#### **Outside Institute Activities-**

- Chairman - Ad-hoc Academic Committee (Senate) of BOS – Computer Science and Engineering, IIIT, Bhopal
- Expert Member of Selection Committee for Temporary Faculty Recruitment on 20/01/2019 for IIIT, Bhopal
- Expert Member of State Project Directorate, Govt. of M. P. on 1st May 2019.
- Expert Member for Selection Committee for Temporary Faculty Recruitment on 20/06/2019 for IIIT, Bhopal
- Technical Expert in Technical and Purchase Committee at CRISP, Bhopal for the Special SGSY Project sponsored by MoRD, Govt. of India for setting up livelihood and skill upgradation centres.
- Expert Member of Interview Panels for different organizations like DRDO, M. P. Rajya Sahkari Sangh Maryadit Bhopal, Sagar

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# PG ORDINANCE 2024

(For M.Tech./ M.Plan./ MBA/ MCA/ M.Sc./ M.A)



**MAULANA AZAD  
NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL**  
(An Institution of National Importance)

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**ANNEXURE-1**

## LIST OF ACRONYMS

<b>Term</b>	<b>Definition</b>
AIU	Association of Indian Universities
BOS	Board of Studies
CFTI	Centrally Funded Technical Institute
CGPA	Cumulative Grade Point Average
DASA	Direct Admission of Students Abroad
DPPC	Departmental Postgraduate Program Committee
EWS	Economically Weaker Section
GATE	Graduate Aptitude Test in Engineering
GoI	Government of India
ICCR	Indian Council for Cultural Relations
IIIT	Indian Institute of Information Technology
IIT	Indian Institute of Technology
JAM	Joint Admission Test for Masters
MA	Master of Arts
MACT	Maulana Azad College of Technology
MANIT	Maulana Azad National Institute of Technology Bhopal
MEA	Ministry of External Affairs
MBA	Master of Business Administration
M Plan	Master of Planning
MSc	Master of Science
M Tech	Master of Technology
NIT	National Institute of Technology
NPTEL	National Programme on Technology Enhanced Learning
OBC	Other Backward Class
RPWD	Rights of People with Disabilities
PhD	Doctor of Philosophy
PG	Postgraduate
PWD	Person with a Disability
SC	Scheduled Caste
Senate	MANIT Academic Senate
SGPA	Semester Grade Point Average
SII	Study in India
ST	Scheduled Tribes
TA	Travelling Allowance
TPO	Training and Placement Office
UFM	Unfair Means

## **DEFINITIONS:**

- i. **Academic calendar:** The exact dates for the important academic events scheduled during the Academic Session shall be specified in the Academic Calendar.
- ii. **Academic year:** Institutes academic year begins from July, 1 and ends on June, 30 every year.
- iii. **Dean (A):** Dean (Academics)
- iv. **Dean (SW):** Dean (Students Welfare)
- v. **Even semester:** Semester that begins in the month of January and closes by June.
- vi. **Institute:** Means MANIT Bhopal.
- vii. **Odd semester:** Semester that begins in the month of July and closes by December.
- viii. **Registration:** Enrolment for the courses that a student wants to pursue ~~in~~ a semester as required by the Programme.

**Note:** 'He' & 'His' imply both genders and may be interpreted as 'he'/ 'she' and 'his'/her', as the case may be.

## 1.0 INTRODUCTION

The goals of the postgraduate programmes at the Maulana Azad National Institute of Technology (MANIT) Bhopal are the development of technological and engineering manpower of the highest quality, to meet with the needs of educational institutions, R&D organizations and industries, a deep understanding of the area of specialization, an innovative ability to solve new technological problems, and a capacity to learn continually and interact with multidisciplinary groups. With these goals, the postgraduate programmes are designed to include courses of study, seminars and project/ thesis through which a student may develop his/ her concepts and intellectual skills.

The procedures and requirements stated in this ordinance include the philosophy of postgraduate (PG) education and ensure a high standard of performance at the Institute. The institute offers following PG programme:

- i. The Master of Technology (M.Tech.) degree in Structural Engineering, Environment Engineering, Geotechnical Engineering, Transportation Engineering, Geo-Informatics & its Applications, Chemical Engineering, Integrated Power System, Power Electronics and Drives, Material Science and Technology, Thermal Engineering, Industrial design, Automation & Robotics, Industrial Engineering & Management, Bio technology, Information security, Advanced computing, Computer networking, Communication Systems, VLSI and Embedded Systems, Bioinformatics, Agile Software Engineering, Renewable energy, Energy System Management, Smart Manufacturing.
- ii. Master of planning (M. Plan) degree in Urban Planning, and Housing.
- iii. The Institute also offers the Programme leading to the Master of Business Administration (MBA) and Master of Computer Applications (MCA), Master of Science (M.Sc.) in Physics and Chemistry, and Master of Arts (MA) in Development Studies.

The Senate Sub-Committee (SC), established according to the bylaws of the Senate, operates through the Departmental Postgraduate Programme Committees

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(DPPCs) to administer all aspects of the above programmes.

## **2.0 ADMISSION**

### **2.1 ACADEMIC SESSION**

The academic session of the Institute is divided into two regular semesters. The first semester will normally commence in July of every year and the second semester in January of every year. The academic activities are carried out as per the academic calendar.

### **2.2 ELIGIBILITY FOR ADMISSION**

- i. The eligibility conditions given below are the absolute minimum. Departments may prescribe any requirements over and above these, subject to the approval of the Chairman Senate.
- ii. For admission in M. Tech/ M. Plan/ M. Sc., a candidate should have the qualifying degree in appropriate branch of engineering/ architecture/ planning/ sciences.
- iii. The M.Tech/ M.Plan and M.Sc admissions will be through centralized counselling for M. Tech /M. Arch /M. Plan (CCMT) admissions and centralized common counselling for M. Sc./ M. Sc. (Tech) (CCMN) respectively. All the M.Tech/ M.Plan candidates admitted through CCMT are eligible for fellowship.
- iv. The eligibility criterion for MBA programme is graduation in any discipline.
- v. The admission in MCA will be based on an all India entrance examination conducted by any one of the NITs every year. The admission criterion for MCA will be same as decided by NIT MCA Common Entrance Test (NIMCET) committee.
- vi. The eligibility criterion for MA programme is any three/four-year bachelor's degree (B.A., B.Sc., B.Tech. or equivalent) from a recognized University or Institute.
- vii. A candidate belonging to General Category, EWS and Other Backward Class (OBC) must possess a minimum of 60 % marks/ equivalent CGPA 6.5 and above on a 10-point scale in the final year of the qualifying examination in appropriate branch. A candidate belonging to Scheduled Caste/ Scheduled

Tribes Category (SC/ST)/ PwD must processes a minimum of 55 % marks/ equivalent CGPA 6.0 and above on a 10-point scale.

- viii. Reservations of seats for OBC/ EWS/ SC/ ST/ PwD will be as per MoE/ GoI norms/ rules.

**Table 2.1:** Eligibility criteria for post graduate programmes

S.N.	Course	Eligibility Criteria
<b>M.TECH/M.PLAN</b>		
<b>Department of Architecture and Planning</b>		
1.	M.Plan in Urban Planning	Bachelor of Architecture, Bachelor of Planning, B.E./B.Tech. in Architectural Engineering, Architecture, Civil, Civil Environmental, Civil Engineering and Planning, Civil and Transportation, Architecture and Interior Decoration, Civil Engineering (Public Health Engineering), Civil and Water Management, Civil and Rural Engineering, Civil Engineering Environment and Pollution Control, Civil Engineering with Computer Application, Civil Engineering (Construction Technology), Civil and Structural Engineering
2.	M.Plan in Housing	
<b>Department of Biological Science and Engineering</b>		
1.	M.Tech in Biotechnology	B.E./B.Tech in Biotechnology, Environmental Science and Engineering, Biomedical, Biochemical, or M.Sc. in Biochemistry, Biotechnology, Environmental Science, Microbiology
<b>Department of Chemical engineering</b>		
1.	M.Tech in Chemical Engineering	B.E./B.Tech. in Chemical, Petroleum, Petrochemical, Food, Dairy, Oil and Paint, Textile, Biotechnology, Biochemical, Agricultural, Marine, Instrumentation, Environmental, Biomedical, Civil, Mechanical, Energy, Renewable Energy, Nanotechnology.
<b>Department of Civil Engineering</b>		
1.	M.Tech in Structural Engineering	B.E./B.Tech in Civil Engineering
2.	M.Tech in Environment Engineering	
3.	M.Tech in Geotechnical Engineering	
4.	M.Tech in Transportation	

	Engineering	
5.	M.Tech in Hydro Power Engineering	BE/ B.Tech in Civil/ Mechanical Engineering
6.	Geo-Informatics & its Applications	B.E./B.Tech in Civil, Computer Science and Engineering, Information Technology
<b>Department of Computer Science and Engineering</b>		
1.	M.Tech in Information security	B.E./B.Tech in any branch with GATE qualified in CSE/AI.
2.	M.Tech in Advanced computing	
3.	M.Tech in Computer net working	
<b>Department of Electrical Engineering</b>		
1.	M.Tech in Integrated Power System	B.E./B.Tech in Electrical/ Electrical & Electronics.
2.	M.Tech in Power Electronics and Drives	B.E./B.Tech in Electrical/ Electrical & Electronics/ Electronic Instrumentation/ Instrumentation and Control/ Electronics Engineering/ Electronics and Communication Engineering.
<b>Department of Electronics and communication</b>		
1.	M.Tech in Communication Systems	B.E./B.Tech. in Electronics and Communication, Electronics and Telecommunication, Electronics, Telecommunication, Applied Electronics and Instrumentation, Electronics and Instrumentation, Instrumentation and Electronics, Electrical and Electronics, Electronics and Communication with specialization in Design and Manufacturing, Electrical, Electronics and Power, Electronics System, Electronics (specialization in System Engineering), Electronics with minor in System Engineering.
2.	M.Tech in VLSI and Embedded Systems	
<b>Department of Material - and Metallurgical Engineering</b>		
1.	M.Tech in Material Science and Technology	B.E./B.Tech in Materials science, Materials and metallurgical, Mechanical, Ceramics, Polymer Nanotechnology, Metallurgical, Materials engineering.
<b>Department of Mathematics, Bioinformatics &amp; Computer Applications</b>		
1.	M.Tech Bioinformatics	4-year graduation (or 3-year graduation + post-graduation) in the field of Science/ Life Science / Mathematics/ Physics / Chemistry / Chemical / Biotechnology / CS / IT / Agriculture/ Bioinformatics/ Computational biology
2.	M.Tech in Agile	B.E./B.Tech in CS/ IT/ Electronics / Mathematics &

	Software Engineering	Computing/equivalent or Master of Computer Applications or M. Sc. (CS/IT/Mathematics/Physics/equivalent)
<b>Department of Mechanical Engineering</b>		
1.	M.Tech in Thermal Engineering	B.E/B.Tech in Mechanical Engineering, Production & Industrial Engineering, Materials & Metallurgical, Automobile, Aeronautical, Chemical, Energy Engineering.
2.	M.Tech in Industrial design	B.E/B.Tech in Mechanical, Electrical, Electronics, Production & Industrial Engineering.
3.	M.Tech in Automation & Robotics	B.E/B.Tech in Mechanical, Civil, Electrical, Electronics, Computer Science Engineering/ Production & Industrial Engineering.
4.	M. Tech in Industrial Engineering & Management	B.E/B.Tech in Mechanical Engineering, Production & Industrial Engineering.
<b>Energy Center</b>		
1.	M.Tech in Renewable energy	B.E./B.Tech in Energy, Renewable Energy, Mechanical, Electrical, Electronics &
2.	M.Tech in Energy System Management	Communication, Civil, Chemical, Instrumentation, Environmental, Biomedical, Electronics and Instrumentation, Electronics, Electrical and Electronics, Electrical and Instrumentation, Power, Electrical Power.
<b>Centre for Excellence in Water Management</b>		
1.	Water Resources Engineering and Management	B.E./B.Tech in Civil Engineering, Agricultural Engineering
<b>Centre of Excellence in Product Design &amp; Smart Manufacturing</b>		
1.	Smart Manufacturing	B.E./B.Tech in Mechanical, Production, Production & Industrial, Smart Manufacturing, Mechatronics, Electrical, Electronics & Communications, Computer Science, Aerospace, Material Science & Metallurgical Engineering, Chemical, Aeronautical Engineering.
<b>Centre for Artificial Intelligence</b>		
1.	Artificial Intelligence	B.E./B.Tech in any branch with GATE qualified in CSE/AI.
<b>Physics</b>		
1.	Nano Technology	B.E/B.Tech in Mechanical, Civil, Electrical, Electronics, MSME, Chemical M.Sc. (Physics, Chemistry, Materials Science)
<b>MCA</b>		
<b>Mathematics, Bioinformatics &amp; Computer Applications (MBC)</b>		
1.	Master of Computer	As per the eligibility criteria of NIMCET

Applications		
<b>MBA</b>		
<b>Management and Social Sciences</b>		
1.	Master of Business Administration	Bachelor's degree or equivalent qualification
<b>M.Sc</b>		
<b>Physics</b>		
1.	Master of Science in Physics	A three/four-year Bachelor's degree (B.Sc. or equivalent) from a recognized University or Institute.
<b>Chemistry</b>		
1.	Master of Science in Chemistry	A three/four-year Bachelor's degree (B.Sc. or equivalent) from a recognized University or Institute.
<b>MA</b>		
<b>Department Humanities and Social Science</b>		
1.	Master of Arts in Development Studies	A three/four-year Bachelor's degree (B.A., B.Sc., B. Tech. or equivalent) from a recognized University or Institute.

## 2.3 ADMISSION PROCEDURE FOR FULL TIME STUDENTS

The institute offers various PG programmes in full time, sponsored, self-sponsored and part time categories.

### 2.3.1 FULL TIME WITH INSTITUTE FELLOWSHIP

The Admission to the full time M.Tech./ M.Plan programme with institute fellowship will be made on the basis of GATE scores of the candidates, through central counseling jointly conducted by all National Institutes of Technology (CCMT) or as directed by MoE/ GoI from time to time. The reservation shall be as per GoI norms.

### 2.3.2 FULL TIME WITHOUT INSTITUTE FELLOWSHIP

- i. M.Tech/ M.Plan: The selection of the candidate is only through Institute test (Without GATE & Stipend)
- ii. MCA: The selection of the candidate is only through NIMCET entrance Examination and counselling or as directed by MoE/ GoI from time to time.
- iii. MBA: The MBA admission will be made by the Institute in the full-time category (without fellowship). The applicants must apply for admission on prescribed forms, which must be sent directly to the AR (Admission) before the last date

specified in the advertisement for PG admission every year. The selection of the candidate is only for CAT/ CMAT/ MAT qualified students. The admission is bound on merit proposed on the basis of CAT/ CMAT/ MAT score (70% weightage) Group discussion (20% weightage) and personal Interview (10%). All admissions will be made on approval by the Chairman Senate, on the recommendations of the duly constituted admission committees.

- iv. M.Sc.: The admission to the full time M.Sc programmes will be made on the basis of Joint Admission Test for Masters (JAM) scores of the candidates, through central counseling jointly conducted by all National Institutes of Technology (CCMN) or as directed by MoE/ GoI from time to time.
- v. MA: The admission to the full time MA programme will be made through institute test.

### **2.3.3 FULL TIME SPONSORED (WITHOUT INSTITUTE FELLOWSHIP)**

- i. Institute offers two (02) seats in each programme for sponsored full time regular PG programme.
- ii. Any student seeking admission under this category shall be working on a regular post in any Government/semi government/public sector units/industries/ academic institutes/ research organizations/ Architectural/ Planning firms for a minimum of two years at the time of admission. Admission of such candidates will be based on the institute test/ interview and the required working experience. Scientist working in Government of India Research organization such as ISRO, DRDO, CIPET, etc. can seek direct admission with the permission of senate. Institute shall allow M.Tech to candidates from the institutions having MoU with MANIT.
- iii. The application form of such candidates should be duly forwarded by the parent organizations and should record that the candidate will be allowed to attend the classes in daytime and will be allowed to stay in the campus/ Bhopal during his/ her PG programme.
- iv. There will be NO concessions on fee to be deposited in MANIT, Bhopal. However, the candidates employed in MANIT Bhopal may be given fee concession subject to approval of Chairman Senate.

- v. If seats in full time with institute fellowship are vacant then they may be filled by the sponsored candidate, after due approved by Chairman Senate.
- vi. No financial liability will be on the part of the MANIT.

#### **2.3.4 FOR AICTE-QIP SPONSORED CANDIDATES**

Under this category, the admission guidelines shall be adopted as per AICTE-QIP scholarship scheme to ascertain the basic eligibility of a candidate. However, after initial scrutiny a personal interview shall be conducted for the shortlisted candidates through a selection committee constituted as per the institute/AICTE QIP guidelines.

#### **2.3.5 FOR ARMED FORCED OFFICERS**

Two additional seats in each PG programme shall be made available to working armed officers, with all other conditions as per sponsored candidates (as in clause 2.3.3).

If PG/M. Tech Student completed the first year successfully then he may convert the degree from full time to part time while writing an application through HOD citing the reasons for conversion.

### **2.4 ADMISSION FOR PART-TIME STUDENTS**

#### **2.4.1 ADMISSION CRITERIA**

The students with Bachelor's degree in relevant\* discipline as per Table 2.1 will be eligible to apply for admission in corresponding Part-time P.G. Programmes, subject to fulfilling the following requirements.

- a. CGPA of 6.5 (on a 10-point Scale) or equivalent, in the qualifying degree. The relaxation in CGPA in the qualifying degree shall be as per MoE/GoI norms from time to time.
- b. At least one year of job experience (Central Government/ State Government/ Teaching Institutions/ Private Industries/ Startups with registration in Department for Promotion of Industry and Internal Trade).

#### **2.4.2 ADMISSION PROCEDURE**

- i. The applicants for Part-time P.G. Programmes will have to appear in a written

test and/or interview conducted by the institute as per prevailing norms.

- ii. Qualifying in GATE / NET is not mandatory but the institute, on its sole discretion, may relax the requirement of written test and/or interview in such cases. The same criterion will be applicable to candidates with a valid GATE / NET score.

On approval by the Chairman, Senate, the admission section will issue the admission letters to the candidates who will be required to accept the offer of admission by depositing the prescribed fee before the specified date.

In case a candidate does not accept the offer by paying the prescribed fee by the specified date, the offer of admission may stand withdrawn, and the admission will be offered to the candidates in the waiting list, if any, in order of merit.

The offer of admission may also stand withdrawn if the candidate who has accepted the offer, fails to register by the date for late registration.

#### **2.4.3 REQUIREMENT FOR COURSE WORK AND RESIDENCY**

- i. A student enrolled in a Part-time P.G. programme has to complete all requirements of the course work and earn as many credits as specified by the institute in the scheme of the corresponding Full-time P.G. programme.
- ii. A Part-time P.G. student will have to opt for a minimum of two theory courses in each semester. In no case, the student will be allowed to opt for more than three theory courses in any semester.
- iii. The candidate will be at liberty to opt for equivalent NPTEL Courses in lieu of regular courses floated by the institute. However, the maximum percentage of such courses can only be 40% of the total number of courses in the academic programme. The choice of permissible NPTEL courses and their credit equivalence will be subject to due approval by the institute at the start of every semester.
- iv. A Part-time P.G. student will be expected to remain in regular touch with his Research Supervisor(s) through the entire duration of the dissertation phase. He is expected to spend at least two weeks in the institute in every semester and complete all stipulated programme requirements.

- v. A Part-time P.G. student will have to undertake laboratory, seminar, studio, field-work etc. as per the programme scheme of the concerned department.

#### **2.4.4 FELLOWSHIP**

No candidate admitted in a Part-time PG Programme will be entitled to any fellowship from the institute.

#### **2.4.5 PROGRAMME DURATION**

A Part-time P.G. Programme will allow the student to complete his/her coursework requirement in two years (for M.Tech./ M.Plan./ MBA/ M.Sc./ M.A) and three years (for MCA). This will be followed by the dissertation / thesis phase which will be of one year duration.

#### **2.4.6 DISSERTATION / THESIS SUPERVISOR ALLOTMENT AND ELIGIBILITY**

The norms and modalities for allotment of a Dissertation / Thesis Supervisor for a Part-time P.G. Programme – enrolled candidate will be as per the standard institute norms prevalent at that point of time. Any change in the allotted Dissertation / Thesis Supervisor will also be subject to standard institute norms.

#### **2.4.7 PROGRAMME FEE**

All Part-time students enrolled in P.G. programmes will have to pay the same admission fee, tuition fee and other charges as decided by the institute.

#### **2.4.8 NUMBER OF SEATS**

The number of Part-time seats in any P.G. programme may be fixed as 30. However, a minimum of 05 students have to be enrolled to run the programme.

### **2.5 ADMISSION FOR FOREIGN STUDENTS**

A foreign student (NRI and Foreign Nationals) seeking admission in any PG programme of MANIT should have a qualifying degree from any Institute/ University recognized by the Association of Indian Universities or abroad.

The application of such students shall be routed through MoE/ Agencies authorized by MoE to the institute before the last date of the submission of applications as prescribed by the institute.

The number of seats for such candidates and the required fee shall be fixed by the institute in consultation with MoE/ Government of India. **These students shall not be eligible for GATE scholarships.**

#### **2.5.1 CRITERIA FOR ADMISSION OF FOREIGN STUDENTS THROUGH ICCR AND DASA SCHOLARSHIP**

- i. The applicant should not be older than 25 years as on 1st October of the calendar year.
- ii. The applicants seeking admission to PG Programmes should have valid GRE score equal to/ more than 280.
- iii. Applicant should have studied all subjects from Secondary School level equivalent of class 06 of Indian System in English Medium.
- iv. The applicant should have cleared 04 years B.Tech/ B.E./ B Plan Degree in relevant discipline and / or 05 years Degree course in Architecture with minimum 60% aggregate marks or 6.5 CGPA (at a scale of 10).

#### **2.6 PROVISIONAL ADMISSION**

A new entrant to any PG programme, who is awaiting the results of the qualifying examination, will be allowed to register "provisionally" on submission of a certificate from his/her institution certifying that he/she has appeared in the final qualifying examination (including all papers in theory, practical, project, oral, etc). The candidate will submit attested copies of the certificates of having passed the qualifying examination by the last date for document submission as specified in the academic calendar (usually about 2 weeks from the date of registration), failing which the admission may be cancelled.

#### **2.7 ADMISSION FEE**

The students admitted will have to pay the full fee for one semester/one year as applicable to the particular category of the candidate as per the institute norms. The institute reserves every right to modify the admission fee from time to time based on the approval of competent authority. Any student will be admitted only when he/she has deposited the full fee for one semester/one year as applicable to him.

### **2.7.1 FEE REFUND**

After the counseling if someone cancels his /her admission at any point of time and if the seat remains vacant. No fees shall be refunded except for Caution money and mess charges (as applicable).

### **2.8 FINANCIAL ASSISTANCE**

- i. The Institute provides financial assistance to full time postgraduate students with institute fellowship, in the form of fellowship. Fellowships are awarded on a semester-to-semester basis for a period of up to four semesters for M.Tech./M.Plan Students. The fellowships are paid as per the rates approved by MoE/ GoI.
- ii. In case if student leaves the PG programme or discontinues the programme in between, for any reason, fellowship shall be discontinued. Also, he/she has to refund all the amount received from the institute directly in the form of fellowship and indirectly in the form of support for activities such as participation in conference, sports etc.
- iii. An undertaking stating these conditions needs to be signed by the candidate at the time of admission. The maximum duration for availing the stipend shall be two years from the date of admission.
- iv. A student of 5-year B. Tech. and M. Tech. in Mathematics and Data Science (Dual Course) shall be provided with fellowship in the 5th year, if the student qualifies the GATE exam and applies for the fellowship.

### **2.9 MULTIPLE EXIT/ENTRY OPTION**

The student can avail options of multiple exits from the programme after successful completion of a minimum of two semester of M.Tech/ M.Plan/ MBA and four semester for MCA. The Senate will prescribe the Certificate to be awarded to the student availing the exit option only upon the request of the concerned student, except where the student successfully completes his/her programme to which the admission was made.

The exit option can be exercised with possibility of reentry to the same course to complete the remaining programme of his/her admission with an upper limit of gap

from the time of exit to the time of re-joining, as prescribed by the Institute Senate. Normally the exit gap should not exceed a period of one year on M.Tech/ M.Plan/ MBA and two years on MCA every exit availed. The gap shall not be counted for computing the maximum permissible duration of the programme. In case the scheme has changed at the time of reentry, the student shall be governed by the scheme in force at the time of his reentry. After successful completion of the programme, the student shall be awarded with a degree certificate with an appropriate remark about having availed the exit option.

The proposed multiple exit options are as follows:

S.N.	Name of Programme	Exit Option
1	M. Tech.	One Year
2	M. Plan	One Year
3	M C A	Two Years
4	M B A	One Year

Also, if students take the in-between exit option as mentioned above and returns back to complete the programme the gap duration will not be taken into account of maximum period permitted, however, the maximum duration of exit shall not exceed five (5) years.

After the exit as mentioned in the additional exit column the student will be entitled for the award of PG diploma in relevant programme, if desired.

### **3.0 REGISTRATION**

A student is required to register in the beginning of each semester for the courses that he/ she intends to pursue in that semester. The registration process involves: The payment of fees for that semester and clearance of any outstanding dues. Without clearance of the dues, a student cannot be allowed to register in the next semester.

#### **3.1 REGISTRATION TO NEXT SEMESTER**

The registration in each semester should be taken as per the notification given by Admission section after paying the Institute Fees in the beginning of each semester

within the prescribed time.

### **3.2 LATE REGISTRATION**

If for any compelling reason like illness, etc. a student is unable to register on the day of registration, he/she can register till the late registration day specified in academic calendar on payment of specified late registration fee.

### **3.3 REGISTRATION FEES DEFERMENT**

In deserving cases, particularly students receiving an external scholarships or a bank loan, the institute may permit registration with deferment of payment of fees beyond the date notified by Academic Section. Student has to submit all the relevant documents regarding scholarships/ bank loan before the last date of registration to the Admission Section. In these cases students has to submit nominal fees as per institute norms.

If a student fails to pay the fees before the declaration of results, his/her result will remain withheld and he/ she will not be in a position to register for next semester unless specifically approved by the Chairman Senate.

### **3.4 LATE SUBMISSION OF THESIS/REGISTRATION BEYOND MINIMUM DURATION**

The last date of thesis submission should be as per Academic Calendar or notification issued by the Institute. A student who is unable to submit his/ her thesis by the due date will be required to register for the next semester beyond minimum duration by submitting the full semester fee. The dissertation exam will be held in the due next semester.

### **3.5 NORMS FOR COMPLETION OF COURSE AFTER EXIT**

Full-time PG students with fellowship and self-financed are allowed to exit with following conditions:

- i. The course must be completed within the maximum period of four years for two year PG programme and six year for three year PG programme, from date of admission.
- ii. The student must clear two semesters (1st year) before leaving the Institute.

- iii. The teaching assistantship must be discontinued from the date of leaving the Institute.
- iv. The students must register regularly in all semester along with semester fee.
- v. An external guide as per Institute norms (if required) may be registered for thesis work.
- vi. The student has to submit No Objection Certificate from his/her employer at the time of registration in next semester.
- vii. If the candidate leaves the programme after two/ three Sem. for job, the minimum duration for course completion will be double of the remaining semesters respectively, with due registration.

### **3.6 NORMS FOR RE-REGISTRATION**

If a student is continuously absent for one or more semesters duly approved by the HODs, He/ She must re-register by paying additional payment as per institute norms, to the eligible semester along with the semester fee. This is applicable to those students who have cleared first year of his/ her PG Course. However, the maximum period will not be extended i.e. double the degree tenure as mentioned in Table nos. 6.1 and 6.2.

### **4.0 STUDENTS LEAVE RULES**

Students may be granted leave under sections 4.1 on his/ her applications by the Head of the Department. Student has to move his/her application through department PG Coordinator. Leave under sections 4.2 will be sanctioned by Dean (Academics) on the recommendation of HOD. Applications must be submitted well in advance of the date of commencement of the leave requested. Leave for a period longer than that specified in sections 4.1 and 4.2 may be sanctioned by Chairman Senate on the recommendation of HOD through Dean (Academics) and it will entail loss of financial assistantship for the extended period.

#### **4.1 LEAVE FOR PG STUDENTS**

PG students shall be governed by following leave rules:

**4.1.1 STUDENTS WITH FELLOWSHIP**

- i. Casual Leave: 8 days per academic year (01 July - 30 June) as per MoE order F.No.17-2/2014-TS-I dated 18 Feb.2015 or any subsequent changes from time to time.
- ii. Maternity Rule: As per Government of India instructions available from time to time for female candidates in all categories.
- iii. Academic leave: For attending conference/seminar/ symposium/ field work or training programme upto a maximum of 15 days in an academic year.

**4.1.2 STUDENTS WITHOUT FELLOWSHIP**

Leave during semester shall be strongly discouraged for all registered students. However, only for bona fide reasons, a student may be granted authorized leave of absence by DPPC during the semester as under:

**Maximum of 15 days in an academic year on proven medical grounds**

**Maximum of 15 days in an academic year for any other valid and proven reason**

The above shall be subject to minimum requirement of attendance as prescribed by the Institute Senate from time to time.

A student who avails authorized leave of absence due to medical reasons shall be required to submit a certificate from the MANIT dispensary doctor in case the medical exigency arises during his/her stay at Bhopal.

**4.2 ABSENCE WITHOUT SANCTIONED LEAVE**

Absence without sanctioned leave by the students with fellowship shall entail loss of fellowship for the period of absence.

Unauthorized leave of absence from the Institute for a period exceeding 3 weeks at a stretch will result in automatic withdrawal of the student from all courses in that semester. In such cases, the concerned teacher would need to inform the DPPC of prolonged unauthorized absenteeism of specific student. DPPC would subsequently initiate action on the concerned non-reporting student.

## **5.0 PERMISSION TO PROCEED FOR ACADEMIC ACTIVITIES**

The PG students can be permitted to proceed for academic activities outside MANIT to carry out field work, library work, computational work, experimental work, and Lab works, and also to attend conference, courses and to undertake other research work etc. as recommended by the department. Permission for a duration up to 15 days be sanctioned by the Dean (Academics) through the concerned head of the department/ center with an intimation to chairman Senate and more than 15 days by the Chairman-Senate on the recommendation of the Departmental head through Dean (Academics). Such leaves will be beyond all leaves in section 4.

## **5.1 INSTITUTE FUNDING PROVISIONS FOR ATTENDING THE CONFERENCES**

The norms for paper presentation in conference with funds from sponsored research/ consultancy projects (if available) or Institute funding are as follows:

- i. Only full-time PG students with fellowship can be considered for the reimbursement of registration fee for paper presentation in following categories of conferences:
  - a. Conferences approved by CPDA committee of the Institute.
  - b. Conferences conducted at IITs, IIMs, IISc, NITs, Institution of National Importance.
  - c. Conferences whose papers are published in SCOPUS Journals/ Web of Science.
- ii. Student can avail financial support from sponsored research/ consultancy projects of his/ her supervisor (s). In case, fund is not available for research/ conference then only, student may approach for Institute fund.
- iii. The Institute funding will have a ceiling as per institute norms.
- iv. Student will get only Travelling Allowance (TA) to travel by train up to third AC to travel in India and conference registration fee. However, fund allocation shall not cover boarding and lodging charges.
- v. The recommendation of supervisor shall include the information about his research and consultancy project and clearly mention the type of funding.

- vi. The proposal shall be recommended and forwarded by the HOD concerned to Dean (R&C) or Dean (Academics), as the case may be.
- vii. Dean (R&C) shall further recommend and forward, if the proposal is from sponsored research/ consultancy projects, else Dean (Academic) shall further recommend for Institute funding and forward the proposal to the Director for final approval.
- viii. The issue of order and record keeping will be maintained by the Academic Section.

## **5.2 PROVISION OF FELLOWSHIP TO PG STUDENTS GOING FOR INTERNSHIP**

Students going for internship to following Organizations will be given fellowship, only if the Organization/ Institute will not provide any financial support:

### **Government Organizations:**

- i. All Indian Institutions of National Importance like IITs, NITs, IIITs, IISc, IISER, IIM, SPA or equivalent institutions.
- ii. All Foreign Institutes/ Universities appearing amongst top 500 ranks of QS World University Ranking in different disciplines, like Engineering & Technology, Natural Sciences, Arts & Humanities etc.
- iii. All Research Organizations of Ministries of Government of India, like CSIR, DRDO, ISRO etc.
- iv. All Public Sector Undertakings (PSUs) of Government of India.

### **Private Industries:**

- i. All private industries having annual turnover of more than 500 Crores.
- ii. All private industries appearing in the list of National Stock Exchange (NSE) or Bombay Stock Exchange (BSE).

## **5.3 NORMS FOR PG INTERNSHIP**

As per Annexure-1.

## **6.0 ACADEMIC REQUIREMENTS**

### **6.1 NUMBER OF SEMESTER, MAXIMUM DURATION AND ACADEMIC REQUIREMENTS**

The following table lists the maximum duration allowed in the programme, and credit requirement for post-graduation in various programmes. A student must complete the entire academic requirements prescribed by the institute/department/center before proceeding for the thesis/project work.

**Table 6.1:** Maximum Duration to complete the full time PG programme

<b>Name of Programme</b>	<b>Number of Semester Required</b>	<b>Maximum Duration Allowed to complete the programme</b>
M.Tech/ M. Plan	2 Years	4 Years
MBA		
M.Sc.		
M.A.		
MCA	3 Years	6 Years

**Table 6.2:** Maximum Duration to complete the part time PG programme

<b>Name of Programme</b>	<b>Number of Semester Required</b>	<b>Maximum Duration Allowed to complete the programme</b>
M.Tech./ M. Plan	3 Years	5 Years
MBA		
M.Sc.		
M.A.		
MCA	4 Years	7 Years

No student who has completed the prescribed maximum duration in the programme shall be allowed to register in the subsequent semester unless he/she has been granted extension of the programme by the Chairman Senate on the recommendations of the HOD and Dean (Academics).

## **6.2 REQUIREMENT OF ATTENDANCE**

Students are expected to attend all the classes, i.e. 100 % attendance in the class, desirable for a student to be eligible to appear for the end semester examination,

in every course in each semester. However, students may be given a concession of 25 % on account of sickness or any other genuine reason. A student shall be eligible to appear in the examination in any course if and only if he/she has attended more than 75% of the total number of classes scheduled in the course in that semester before each examination.

### **6.3 EVALUATION PROCESS**

The evaluation of students in a course is a continuous process and is based on their performance in one mid-semester examination, quizzes, assignments, laboratory work (if any), end-semester examination, etc. As guidelines, the table below exhibits typical distribution of marks in a continuous evaluation process.

#### **Theory paper:**

End Semester Examination (Duration two hours) Maximum mark	Continuous Evaluation		Total Marks (Theory)
	Distribution	Total	
40	Assignments/Quizzes/ Surprise Test (Best of five)	30	100
	Mid Semester Exam (Duration one hour)	20	
	Attendance	10	

#### **Practical/ Thesis/ Project/ Seminar:**

End Semester Examination (Maximum marks)	Continuous Evaluation		Total Marks (Practical)
	Distribution	Total	
40	Practical records + Viva	30	100
	Mid-Semester Evaluation	20	

	Attendance	10		
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### Studio Based Subjects:

End Semester Evaluation (Maximum marks)	Continuous Evaluation			Total Marks (Studio)
	Distribution		Total	
40	Continuous Evaluation	30	60	100
	Mid-Semester Evaluation	20		
	Attendance	10		

With the help of a Senate Sub-Committee, the Senate may modify the marks distribution to be normally adhered by the course coordinators from time to time. A course coordinator who wishes to differ his/her evaluation distribution shall have to make a written request elaborating the reasons within three days of the beginning of the semester to the Dean (Academic), who with the help of a Senate Sub-Committee or otherwise may approve a modified distribution for the specific subject for which the request has been made.

#### a) Schedule of Examinations

All examinations shall be usually held during the periods/days specified in the Academic Calendar. The schedule for the mid-semester examination and the end-semester examination will be declared by the respective departments.

#### b) Make-up Examination

If a student, for bona fide reasons, fails to appear in the Mid-Semester/ End Semester examination, he/ she may make a request to the concerned Course Coordinator for a make-up examination within three days of the date of the scheduled examination. Such a request must give reasons for the failure to appear in the examination with a certificate from a recognized Medical Officer of the Institute dispensary in case the failure to appear in the exam was due to illness. Such cases shall be kept in DPPC which may approve the make-up examination with due

intimation to the Dean (Academic). The make-up exam shall be held within 2-weeks of the end-semester examination. The student in such make-up examinations shall be awarded a reduced or scaled-down marks fixed by the Senate (for instance, 80% of the actual scored marks as a guideline) in order to discourage the student from deliberately missing the exams for non bona-fide reasons. Students with D+ and D grades may also be permitted to undertake such make-up exams. However, the make-up exams shall not be open for a student getting F grade in the regular exam since in this case, the subject would need to be necessarily repeated.

Only one make-up examination, for the mid-semester OR end-semester examination shall be allowed per course. In case of failure to appear in both mid and end semester examinations, the student shall be deemed to have withdrawn from the course and shall be awarded 'W' grade.

#### **6.4 CREDITS, GRADES, SEMESTER AND CUMULATIVE GRADE POINT AVERAGE**

At the end of the semester, a student shall be awarded a letter grade based on relative performance in each of his/her courses by the concerned Subject coordinator taking into account student's performance in various examinations, quizzes, assignments, laboratory work (if any), etc. The grades shall be displayed to the students and officially submitted by the concerned Subject coordinator within prescribed time-limit after the end-semester examination.

The Institute prescribes thirteen letter grades: A(+), A, B(+), B, C(+), C, D(+), D, F, I, NP, NF and W. The letter grades and their numerical equivalents on a 10-point scale (called Grade Points) are as follows:

<b>Grade</b>		<b>Points</b>	<b>Description of performance</b>
A (+)		10	Outstanding
A		9	Excellent
B (+)		8	Very Good
B		7	Good
C (+)		6	Satisfactory
C		5	Average
D (+)		4	Below Average
D		2	Marginal
F		0	Fail
I		-	Incomplete
NP		-	Audit Pass
NF		-	Audit Fail
W		-	Withdrawal

- a) Fail Grade “F”:** A student who is awarded ‘F’ grade shall have to repeat the course whenever it is offered again. Where the student is unable to repeat the course for reasons beyond his control such as the non-offering of an elective or a change of scheme, the DPPC shall replace the relevant course with its nearest equivalent for completion by the student. However, if in the repeat course or its equivalent, the student once again ends up earning ‘F’ grade, then student shall have to opt for a replacement/differing course with the approval of DPPC of the concerned department for completing the required credits.
- b) Incomplete Grade “I”:** A student may be awarded the grade ‘I’ (Incomplete) in a course if he/she has missed, for a *bona fide* reason, a minor part of the course requirement but has done satisfactorily in all other parts. An ‘I’ grade may be awarded for not appearing in Mid-Semester/End-Semester exam because of medical/unforeseen reasons and for instances of use of Unfair Means (UFM) in the exams. An ‘I’ grade shall remain a temporary grade, and must, be converted by the Subject coordinator into an appropriate letter grade and communicated to the examination section by the last date specified (usually 3 days after the make-up examination). Any ‘I’ grade still outstanding three days after the last scheduled make-up-examination shall be automatically converted into the ‘W’ grade, and the student will be deemed to have withdrawn from the course.
- All instances of UFM cases shall be dealt in separately by the Senate-sub-Committee SPPC that may invite the HOD of the concerned department, Prof. I/c (Exam) of concerned department, Subject Coordinator and invigilators for helping to arrive at a decision. Depending upon the gravity of offense, the committee may recommend withdrawal from the course with grade ‘W’ / award of barely passing grade/ one-lower grade/ penalization of 5-20% marks etc. to arrive at a grade that would eventually replace the ‘I’ grade awarded earlier.
- c) Withdrawal Grade ‘W’:** A student who is deemed to have officially withdrawn from a course for which he/she had earlier registered shall be awarded a ‘W’ grade. This grade may be awarded because of reasons such as extreme shortage of attendance and/or punitive action on disciplinary ground or on ground of serious UFM practices adopted. In all such cases the student shall be deemed to have undergone a forced withdrawal from a course with a letter grade ‘W’ awarded. The student may also voluntarily choose to withdraw from a course upto until the beginning of mid-semester examination by informing the course coordinator in writing. In case of ‘W’ grade, the student may have to opt to

repeat the entire course whenever it is offered next time if it is a core course deemed necessary for the programme by the DPPC. Where a change of scheme occurs and the course is not offered again, the DPPC shall replace the relevant course with its nearest equivalent.

- d) **'NP/NF' grades:** A student may audit courses with the permission of the subject coordinators and the DPPC. Overall, courses worth upto 06 Credits may be audited during the stay at MANIT and this load shall be in addition to the normal academic load required in the semester. Auditing a course shall imply that the course shall not be included in the SGPA/CGPA calculations, and only Audit Pass (NP) / Audit Fail (NF) grades shall be awarded to the student.
- e) **Change of Grade Already Awarded:** A letter grade once awarded shall not be changed unless a request for change is made by the subject coordinator of the course and the same is approved by Chairman, Senate on grounds of serious discrepancy on the part of the course coordinator in the award of grade. Any such request for change of grade must, however, be made within four weeks of the start of next-semester in the prescribed form with all relevant records placed for justification.

## **6.5 COMPUTATION OF THE SEMESTER GRADE POINT AVERAGE (SGPA) AND CUMULATIVE GRADE POINT AVERAGE (CGPA)**

**6.5.1 Semester Grade Point Average (SGPA):** The Semester Grade Point Average (SGPA) is a weighted average of the grade points earned by a student in all the courses credited and describes his/her academic performance in a semester.

$$SGPA = \frac{\sum_{\text{Semester}} (\text{Course credits} \times \text{Grade point})}{\sum_{\text{Semester}} (\text{Course credits})}$$

**6.5.2 Cumulative Grade Point Average (CGPA) -** The Cumulative Grade Point Average (CGPA) indicates the overall academic performance of a student in all the courses registered up to and including the latest completed semester. It is computed in the same manner as the SGPA, considering all the courses, and is given by

$$CGPA = \frac{\sum_{\text{All Semesters}} (\text{Course credits} \times \text{Grade point})}{\sum_{\text{All Semesters}} (\text{Course credits})}$$

Whenever a student is permitted to repeat or substitute a course, the new letter grade

shall replace the old letter grade in the computation of the CGPA, but both the grades shall appear on his/her Grade Report.

**The percentage formula may be taken as:**

Marks in percentage = (CGPA -0.5) \*10

First Division, if CGPA  $\geq$  6.5

Second Division, if CGPA less than 6.5 and pass in the programme.

## **6.6 ACADEMIC PERFORMANCE REQUIREMENT**

### **6.6.1 DEFICIENT ACADEMIC PERFORMANCE**

A deficient student having SGPA of less than 5.5, may be placed on Warning.

### **6.6.2 WARNING**

A deficient student shall be placed on ‘warning’ with a letter to the effect issued by the Dean (Academic) to the student, a copy of which shall be sent to his/her parents/guardian. Such a student would be required to sign an undertaking incorporating the following terms and conditions:

- i) His/Her academic load may be reduced by at least one course,
- ii) He/She shall obtain a minimum SGPA of 5.5 in the succeeding semester
- iii) He/She shall not hold any office in the Hostels, Students Council or any other organization/body during academic probation.
- iv) Any other term/condition as laid down by Senate.

The parents/guardian will be required to countersign the undertaking.

### **6.6.3 PROVISION FOR IMPROVEMENT IN CGPA**

Any candidate shall have to appear in the improvement examination for the courses whenever it is offered till he gets a CGPA of 5.5 within the maximum permissible period.

## **6.7 AWARD OF DEGREE**

Any candidate who completes all the above academic requirements shall be awarded the respective PG degree in the convocation of the institute.

### **6.7.1 PROVISIONAL DEGREE**

All the candidates who have completed all the academic requirements shall get a provisional degree on the submission of no dues certificate to the academic section. This provisional degree shall be valid till the convocation of the respective batch.

### **6.7.2 RANK CERTIFICATE/MEDAL/MERIT CERTIFICATE**

The candidates who have completed all the semesters without any backlog and within the minimum stipulated time shall be considered for rank certificate/medal/merit certificate as per their CGPA.

## **7.0 VARIOUS COMMITTEES**

### **7.1. SENATE**

The Senate of MANIT Bhopal is the apex academic body set up under the NIT's ACT 2007, and deals with all academic matters governing the Institute. The Senate controls, regulates, and maintains the standards of instructions, education, and examination in the Institute and exercises such other powers and performs such other duties as may be conferred or imposed upon it by the NIT Statutes. The Director of the Institute acts as the ex-officio Chairman of the Senate.

The Senate of MANIT Bhopal conducts itself through specific Senate Sub-committees set-up by the Chairman Senate from time to time.

### **7.2. DISCIPLINARY/GRIEVANCE COMMITTEE**

- i. An academic grievance committee is constituted for the smooth functioning of all the post graduate programs of the institute and it consists of the following members:

<b>Dean (Academics)</b>	<b>Chairman</b>
<b>Dean (Student Welfare)</b>	<b>Member</b>
<b>PIC Exam</b>	<b>Member</b>
<b>Concerned Warden(s)</b>	<b>Member</b>
<b>Proctor(s)</b>	<b>Member</b>
<b>Associate Dean (PG and Research)</b>	<b>Member</b>
<b>Concerned HOD</b>	<b>Convener</b>

The above committee will deal with all the PG students academic matters/grievances related to attendance, academics etc., problems in the PG programme. The committee will meet as and when necessary, and send the recommendations to the Chairman senate for final approval and action.

- ii. Although all PG students residing in the hostels or outside hostels are expected to maintain the decorum and harmony of the hostels and campus community to the best of their behavior, a disciplinary committee will be constituted for the smooth running of the hostel life of all PG students in the MANIT campus. This committee consists of the following members.

<b>Dean (Student Welfare)</b>	<b>Chairman</b>
<b>Dean (Academics)</b>	<b>Member</b>
<b>PIC Exam</b>	<b>Member</b>
<b>Proctor(s)</b>	<b>Member</b>
<b>Concerned HOD</b>	<b>Member</b>
<b>Chairman (COW)</b>	<b>Member</b>
<b>Concerned Warden(s)</b>	<b>Member</b>
<b>Concerned Chief Warden</b>	<b>Convener</b>

The above committee will be dealing with all the administrative/ disciplinary matters related to the PG students living in and out of institute hostels. The committee will meet as and when necessary and send the recommendation to the chairman senate for final approval and action.

### **7.3 DEPARTMENTAL POST-GRADUATE PROGRAMME COMMITTEE (DPPC):**

1	Chairman	HOD of concerned department
2	Members	<p>Two Professors, One Associate Professor and One Assistant Professor form the Department/ Centre. In case of lack of member at a particular cadre, the same may be opted from the other cadre. In case the quorum is not available in the parent department, the members can be opted from other department/ Centre.</p> <p>One Professor/ Associate Professor from other department.</p> <p>Two student representatives (preferably one male and one female student, from two different batches of the PG programme, except the first and the final year) nominated by the HOD.</p>

3	Convenor	A member of DPPC nominated by concerned HOD.
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### **Responsibilities of DPPC:**

The Departmental Post-Graduate Programme Committee (DPPC) is responsible for the following:

- i. Supervision and conduct of lecture, tutorial and practical classes.
- ii. Supervision and conduct of midterm exam, class tests, quizzes, practical tests, end semester examination, thesis work, seminar and project presentation and ensuring its quality.
- iii. Monitoring of quality of instructions to students.
- iv. Appointment of supervisors of PG Candidates.
- v. Admission related matters in PG programmes at departmental level.
- vi. Monitoring the quality of research.
- vii. Proposing and implementing new courses and programmes as approved by Senate/ BOG.
- viii. Recommending for release/ continuation of Teaching Assistantship on monthly basis.
- ix. Attending to the problems of students and advising, counseling them in academic matters.
- x. To recommend the cases of PG students for continuation/ extension/ termination/ cancellation of programme
- xi. Acting as Student Grievance Committee for PG students at department level.
- xii. Any other work assigned to it by Dean (Academics)/ Senate.

The DPPC is expected to have its meeting regularly and to keep record of its decisions.

### **7.4. SENATE POST-GRADUATE PROGRAMME COMMITTEE (SPPC)**

The Senate Post-Graduate Programme Committee (SPPC) shall act as Senate subcommittee to address and resolve academic matters related to PG programmes, forwarded by DPPC (if not resolved at the level of DPPC).

1.	Chairman	Dean (Academic)
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2.	Members	DPPC of all the Departments offering PG programmes. Two PG student representatives (preferably one male and one female student from pre-final year) nominated by Dean Academic
3.	Convenor	Associate Dean (PG)

## 7.5 BOARD OF ACADEMICS (BOAC)

The BOAC is constituted for every Department/Centre with Dean (Academic) acting as the Chairperson and the HOD of the relevant department/center acting as the Convenor. The BOAC shall have external and internal members nominated by the Chairman Senate as per the norms laid down by the Senate from time to time. Typical constitution of the BOAC shall be as per the following

- Dean Academic (Chairperson)
- Head of the Department/Centre (Convenor)
- One External Academic expert from Institution of National Importance, preferably IITs
- One External Industry/National Research Laboratory expert
- One Distinguished alumni of the concerned discipline
- All faculty members of the concerned Department/Centre

The BOAC will have the following roles:

- Revision, modification, and vetting of the Scheme and Syllabus related to department.
- Addition, deletion, and renaming of courses and electives
- Proposing new programmes or closing the existing programmes within the department.
- Any other relevant academic matter.

The HOD shall ensure thorough discussion and consensus on the agenda of BOAC in a Department faculty meeting before taking the matter on the agenda of the BOAC.

**8.0 CODE OF CONDUCT AND DISCIPLINE****8.1 CONDUCT AND DISCIPLINE**

With a view to keep the reputation & image of Institute, the students are required to maintain discipline in the campus and as require to;

- i. Show due respect to their teacher, wardens and staff of hostel and show proper courtesy to other members of the staff of Institute.
- ii. Maintain good rapport and friendly relationship with fellow students.
- iii. Behave affectionately with the new students every year.
- iv. Do not indulge in any acts of ragging. Ragging in any form is banned by law.
- v. Act of physical or mental harassment to junior students individually or in group, is considered as an Act of ragging and calls for strict disciplinary actions including expulsion from the Institute and police action.
- vi. Hon'ble Supreme Court decisions on ragging and subsequent direction from UGC are to be strictly adhered to.

**8.2 ACTS OF MISCONDUCT AND INDISCIPLINE**

- i. Disregard of orders and instructions of the members of the institute staff.
- ii. Noisy, boisterous, disorderly and obnoxious behavior.
- iii. Irregular attendance and unauthorized absence from classes and hostels.
- iv. Lack of punctuality in attendance, nonpayment of institute dues, in other matters where dates and time for any duty, functioning or obligation are prescribed.
- v. Persistent neglect of studies including mass absenteeism and inciting the mass absenteeism.
- vi. Recourse to unfair means in test and examination.
- vii. Negligence, use of false, fraudulent statement or acts.
- viii. Taking part in strikes.
- ix. Failure to produce identity card on demand by member of staff, warden, prefect etc. at any time and place within the institute, hostel and town.
- x. Non-sportsman like behavior during indoor/outdoor games.
- xi. Displaying lack of courtesy and decorum, resorting to indecent behavior

- anywhere within or outside the campus.
- xii. Any act of damaging the image & reputation of the Institute.
  - xiii. Willfully damaging or stealthily removing any property belonging to institute hostels or of fellow students.
  - xiv. Possession, consumption or distribution of narcotic products and alcoholic drinks or harmful drugs, smoking etc.
  - xv. Possession of fire arms or lethal weapons in the institute premises/hostels, examination hall etc.
  - xvi. Organizing or participation in any group activity expects purely academic and scientific programmers, in company with others in or outside the campus without prior permission of the appropriate authority.
  - xvii. Indulgence in any kind of political activity including displaying posters or placards of political parties within the institute premises.
  - xviii. Addressing the press without permission.
  - xix. Forming society/ association/ organization without permission of appropriate authority.
  - xx. Inviting any outsider of conduct a meeting without permission of the appropriate authority.
  - xxi. Involvement in agitation of any kind which may lead to breach of peace.
  - xxii. Interference with the institute administration.
  - xxiii. Damaging fauna and flora in the campus.
  - xxiv. Indulging in any other acts which the authority feels as breach of discipline.

### **8.3 IN ADDITION, THE STUDENT SHALL OBSERVE THE FOLLOWING**

- i. Student during training in industry must confirm to industrial discipline and follow factory rules in regard to attendance, holiday, timings & code etc.
- ii. Student shall be responsible for all books, apparatus tools, instruments, material etc. issued to them.
- iii. Student shall observe all safety precautions. The institute is not responsible for accidents in the institute, hostel, workshop, laboratory and playground.
- iv. A student who is found to have committed any act of indiscipline is liable to any one or more of the following punishments.

(i) Warning (ii) Censure (iii) Fine (iv) Reduction/ Cancellation of scholarship/stipend/Fellowship (v) Recovery in part or full of losses or damages to the institute property or property of others caused by the delinquent student (vi) Suspension from availing of any other caused by the delinquent student (vii) Suspension from availing of any of the Institute amenities and services or from class (viii) Removal, rustication or expulsion from the institute or hostel (ix) Withholding of character certificate. Ragging of juniors students will invariably lead to expulsion from the institute.

No post in Student Council/ Association/ Hostel committees, No privilege for Value Education etc. No permission for attending conferences, No recommendations, No option to revise grades, review and debarring from campus interviews, deduction of marks of innovates works/General Proficiency, informing prospective employers, debarring from attending convocation. The students will have opportunity through NCC/NSS/Sports to improve their behavior/discipline. The punishments are liable to be inflicted at the discretion of Director whose decision shall be final.

- v. Students are required to attend not less than 75% of lectures and tutorials etc. in each subject and to complete 75% of practical work in practical subjects in order to qualify for appearing at the End Term Examination.
- vi. Students who wish to take leave must send application in writing duly countersigned by their parents or their tutor guardians or Hostel Warden to the institute office; at least two days before the date on which they wish to proceed on leave, except in case of emergency.

#### **8.4 RAGGING OF JUNIOR STUDENTS**

As per the decision of the Hon'ble Supreme Court vide Writ Petition (Civil) No. 656 of 1998, Ragging is an undesirable Social Offence which is totally banned in the Institute. Broadly speaking ragging is: Any disorderly conduct whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness any other student, indulging in rowdy or undisciplined activities which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in a fresher or junior student or asking the student to do any act

or perform something which such student will not do in the ordinary course and which has the effect of causing or generating a sense of shame or embarrassment so as to adversely affect the physique or psyche of a fresher or a junior student.

Any act of physical and mental abuse (including bullying and exclusion) targeted at another student (fresher or otherwise) on the ground of colour, race, religion, caste, ethnicity, gender (including transgender), sexual orientation, appearance, nationality, regional origins, linguistic identity, place of birth, place of residence or economic background.”

The following could be possible punishments as per the decision of the Hon'ble Supreme Court.

- i. Cancellation of admission.
- ii. Suspension from attending classes.
- iii. Withholding/ withdrawing scholarship/ fellowship or other benefits.
- iv. Debarring from appearing in test/ examination or other evaluation process.
- v. Withholding results.
- vi. Debarring from representing the institution in any national or international meet, tournament, youth festival etc.
- vii. Suspension/ expulsion from the hostel.
- viii. Rustication from the institution for periods varying from I to IV semesters.
- ix. Expulsion from the institution and consequent debarring from admission to any other institution.
- x. Fine as per Government Norms prevailing from time to time.
- xi. Rigorous imprisonment as per Government Norms prevailing from time to time.

## **9.0 PG THESIS/ PROJECT**

### **9.1 SUPERVISOR(S) SELECTION**

Any PG student, who has completed all the academic requirements as prescribed by the institute, can proceed to select a thesis/project supervisor(s) from the research area in which he/ she is interested to work in his parent department. A student can also choose the thesis supervisor from other departments of the institute,

if the chosen supervisor has the same working area in which the student is interested. For this due permission should be taken from the Dean (Academics), through head of the parent department of the student. The same procedure should be adopted if a student is choosing the supervisor from any other academic institute (NOT below the level of NITs)/ Industries/ Research Organizations. In case a thesis supervisor leaves the institute permanently for more than three months before the completion the thesis, a student can choose other supervisor with consultation of the Department Post-Graduation Programme Committee (DPPC) and HOD with the intimation to Dean (Academics).

## **9.2 THESIS/ PROJECT WRITING AND SUBMISSION**

A PG student who has completed all the necessary work of the thesis/ project to the satisfaction of the concerned supervisor(s), may write his/ her thesis/ project report in the prescribed format and must submit the same in the academic section, with the clearance of all dues, before the last date specified by the Institute Failing which he/she will have to pay the fee as indicated in section 3.5. The thesis must be soft bounded with blue color cover page, and must be certified by the concerned supervisor(s) that the required work was done under his/ her/ their supervision, and there is no duplication of the work. The thesis/ project report should be arranged in following manner and should strictly be followed.

- i. Cover page with blue color hard paper followed by white paper having the cover page items.
- ii. Certificate by supervisor(s) in the format specified by the institute
- iii. Acknowledgement by candidate.
- iv. Preface/Abstract (both in Hindi and English)
- v. Table of Contents
- vi. Chapters of the thesis both side printing
- vii. Fonts- Times new roman, Size - 12 Point, Line Space – 1.5
- viii. Appendices, if any
- ix. List of Publications, if any.
- x. References.
- xi. Plagiarism report

**The details about the PG thesis format will be available on the institute website.**

### **9.3 THESIS/ PROJECT ORAL EXAMINATION COMMITTEE**

- i. The thesis/ project will be examined by an oral examination board formed by the thesis supervisor(s), in consultation with the Head of the Department. It must be recommended by the DPPC and approved by the Chairman senate.
- ii. The committee shall consist of the thesis supervisor(s), at least one member from outside the department or outside the institute and a member from the concerned department (preferably for a group of five students). The head of the department or person deputed by the head of the department will act as the Convener of the Committee.
- iii. In addition to these board members any thesis/ project oral examination/ defense must be open to those all who are interested to be the part of the same. A notice regarding thesis defense should be placed on notice boards before one week of its schedule clearly indicating the date, time and venue. Except in some exceptional cases normally the thesis defense will not be on any holiday including Saturday and Sunday.

### **9.4 USE OF UNFAIR MEANS/ COPYING OF THESIS**

- i. Use of unfair means in any examination of the institute is strictly prohibited and is considered as a serious offense. If any such matter is reported by an invigilator, the grievance committee given in Section 7 will recommend any one of the following punishments based on the written report of the invigilator, relevant papers etc. The disciplinary committee will use its own discretion for all the points of category/punishment not covered in the following table.

<b>Category</b>	<b>UFM Type</b>	<b>Punishment</b>
A	During the course of any examination if any book or written paper related to the examination is found with the candidate.	Examination of that theory paper of the candidate will be cancelled.

<b>B</b>	If a candidate leaves the examination hall finally without handing over the answer book to the invigilator or smuggles in an answer book or replaces the continuation sheet during or after the examination.	
<b>C</b>	Getting impersonated by any other person or refuses to hand over the materials used for copying or destroyed the proofs or refuses to sign on UFM Perform all such candidates will be put under this category.	Present examination will be cancelled in full and the student will be Debarred from appearing in the next examination and therefore the candidate cannot be Admitted in next coming semester exams.
<b>D</b>	If a candidate tries to disrupt or actually disrupts the examination or tries to forcefully obstructs the others not to appear in the examination.	Present examination will be cancelled in full and the candidate will be Debarred for next two examinations.

- ii. Copying of the thesis from any source at any stage is strictly prohibited and is treated as a criminal offense. If any candidate is found guilty in this offense at any stage of the programme, his/her thesis liable to be cancelled after a due departmental enquiry set up by the Chairman Senate for the same. The Chairman senate is empowered to take any decision on such matters including the termination of the programme of candidate.

#### **10.0 Special Provision for students with specific learning disabilities (SLD)**

- i. Flexible options shall be provided to complete the PG degree at a comfortable pace while allowing for additional semesters to meet the degree credits.
- ii. Individual learning plans shall be created for these students and course load & credit requirements for each semester shall be recommended for individual students.

iii. Special assistive technologies, reasonable accommodation and any other specific help shall be provided to these students during the course work and examinations.

## **11.0 RIGHT TO AMEND AND INTERPRET**

In case the provisions of this Ordinance need urgent revision or amendment for smooth conduction of academic requirements, the same can be done by Chairman Senate, whose decision shall be ratified in the subsequent senate meeting.

In case of difference of opinion in understanding/interpretation of any rule/regulation, the decision of the Chairman, Senate shall be final and binding.

Notwithstanding anything contained in this ordinance, the Senate of MANIT Bhopal reserves the right to amend and revise without notice the procedures, requirements, and rules pertaining to its postgraduate programmes at any point of time it deems fit.



**मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003**  
**(गिर्वा मंत्रालय, भारत सरकार के अधीन राष्ट्रीय महत्व का संस्थान)**  
**MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL -462003**  
 (An Institution of National Importance under Ministry of Education, Govt. of India)

**Norms for PG Internship (11 months and 6 months)**

**1. Eligibility**

- i) Only those M.Tech/ M. Plan candidates who have completed 2 Semester course work shall be eligible for internship.
- ii) The candidate should submit the Synopsis of the proposed work to be done during the internship within 3 weeks from the date of relieving from MANIT Bhopal for internship.
- iii) The internship application for candidates shall be evaluated/ reviewed by TPTC, DPPC Coordinator & HoD.
- iv) The candidates are required to submit an undertaking form with reference to point no.1.ii (FORM1: undertaking), to the department through faculty coordinator (TPTC) with a copy to the Training and Placement cell along with application, for approval from competent authority.
- v) The letter of acceptance of internship by the industry / company /education organization is to be submitted along with the Synopsis to the supervisor allotted to him/her by the department via email/post within 3 weeks of joining.(FORM 2:acceptance of internship).
- vi) If the candidate is unable to fulfill the above requirements, he/she can either join back the institute within four weeks from the date of relieving for internship or shall be considered on Job.

**2. Procedure for recommendation:**

- i) The application for Internship has to be submitted on or before two weeks from the commencement of the semester, only.
- ii) The process of applying for internship should be through the HOD concerned in the prescribed format. (Form 3: Application form for internship). The candidate is advised to submit the form within a week of getting the offer of internship from the company. Offer of internship should be in the form of email and the result in the email given by company to the TPO shall be considered as final document. In case, a candidate gets another opportunity of internship, he/she can switch to the better one and the institute shall give permission for the same. The candidate must fulfill all the formalities of form1 and form3.
- iii) The proposal will be considered with due recommendation of the TPTC.
- iv) Company profile shall be evaluated by the DPPC for Off-campus internship.
- v) The Document file should have the following documents
  - a. Form1:Undertaking form
  - b. Form3:Application form for internship
  - c. Offer Letter/Email of the company for internship
  - d. Proof regarding successful completion of two semesters.
- vi) The candidate should submit the complete document file to the faculty coordinator (TPTC) of the department. The TPTC will forward the same to HOD for recommendation.
- vii) The HOD of the concerned department after getting recommendation of TPTC shall forward the above document file to the Training Placement cell for approval from Competent Authority and issuing the order (NOC) of the internship. The TPO will send the NOC to the faculty coordinator TPTC. The TPTC shall send the copy of same to the HOD and the concerned candidate of the department, AR Account, Associate Dean PG, Professor in-charge examination.
- viii) Intimation of commencement of internship shall be submitted to the HOD concerned before the commencement of the ongoing semester through department faculty coordinator (TPTC)

**3. Fellowship:**

- i) The fellowship from MANIT shall be discontinued to the candidate who will be getting stipend from the industry/company/education organization where he is doing internship, from the date of joining the internship.

**4. Evaluation Criteria:**

- i) The project work done during 6-months /11-months internship shall be equivalent to their M. Tech. one semester/ two semester dissertation work.
- ii) The supervision of the internship work shall be done by at least one faculty from the department assigned as supervisor and one mentor from industry/company/educational organization.
- iii) Industry/company/educational organization must submit the month-wise attendance of the candidate to the supervisor of the candidate in the concerned department of MANIT.
- iv) Candidate shall regularly submit the progress report to their respective supervisor of MANIT virtually as suggested by his supervisor(s).
- v) The final evaluation shall be done on the basis of the recommendation given by the mentor of the industry/company/educational organization by supervisor(s), DPPC and external examiners (if appointed by the higher authority).

**5. General Conditions:**

- i) Usually, the industry/ company/ educational organization do not prefer to disclose most of the confidential work to be published by the candidate. Therefore, allotted supervisor(s) and candidate may publish the work only after getting NOC/consent from the company/industry/educational organization through the TPO of MANIT (FORM4). The TPO, after receiving the consent form the company (Form 4) shall forward it to the TPTC of the department, for information to the concerned supervisor and candidate.
  - ii) The dissertation work done in 3<sup>rd</sup> semester should be complete in all respect, so that, if the candidate gets internship for 6 months in 4<sup>th</sup> semester, the dissertation/project work should not be the part of 3<sup>rd</sup> semester's work.
  - iii) Candidate must follow the MANIT academic calendar and be present virtual/offline, as the case may be, during the time of their seminars/mid-term review, viva-voice/presentation and at the time of final evaluation.
  - iv) If the candidate feels that the internship work is not of high quality/not related to their field of interest, then he/she should submit the application to the department within four weeks from the relieving date from the Institute and can rejoin the institute. In case of rejoining, his/her fellowship shall be resumed from the date of joining back in the Institute.
  - v) Industry/company/educational organization shall allowed to produce relevant documents of the work done by the candidate during internship period in the dissertation/project report. The experience certificate of the internship from the industry/company/educational organization is mandatory.
- .....



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## **FORM 1**

### **UNDERTAKING**

I \_\_\_\_\_ Scholar no. \_\_\_\_\_ of M.Tech\_202\_\_ - 202\_\_(Course duration) in the department of \_\_\_\_\_ MANIT, Bhopal here by undertake that I will submit the synopsis of the work to be done during the internship period within 3 weeks from the date of relieving from MANIT, Bhopal along with the letter of acceptance of internship by the company/industry/educational organization.

I understand that failing to comply the above undertaking, my regular registration shall be treated as per PG ordinance clause 3.6, if I don't join MANIT back for completion of thesis work.

Name of M.Tech./ M.Plan Course: \_\_\_\_\_

Date:\_\_\_\_\_

Name of the candidate:\_\_\_\_\_

Signature of the candidate:\_\_\_\_\_



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## FORM 2

### Acceptance of M.Tech./ M. Plan Internship

This is to certify that Mr./Miss/Mrs. \_\_\_\_\_ With Scholar Number \_\_\_\_\_  
of Course \_\_\_\_\_, Department \_\_\_\_\_ in semester \_\_\_\_\_  
of Maulana Azad National Institute of Technology, Bhopal has been selected for internship at our Educational  
Institute/ Industry from \_\_\_\_\_ to \_\_\_\_\_.

We have gone through the rules/ norms of the PG internship of the institute and are acceptable to us. Also, candidate is  
allowed to produce results obtained during the project/ internship period for his/ her project report.

Mobile Number of the authorized person:	Signature of the authorized person:
Email Id of the authorized person:	Date and Place:
Address of the authorized person:	

To,  
HOD

Department of \_\_\_\_\_ MANIT, Bhopal



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### FORM 3

#### Application Form for PG Internship

Name				
Scholar Number				
Degree				
Department				
Current Semester				
Course				
Category of Internship	On Campus	<input type="checkbox"/>	Off Campus	<input type="checkbox"/>
Name of the company/ educational institute				
Period of Internship				
Stipend for Internship	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Any other relevant information	If Yes, Specify the amount in Rs. _____			

#### Undertaking

I have read the norms of PG internship and shall abide by the rules and regulations of the institute.

Mobile Number of the candidate:	Signature of the candidate:
Email Id of the candidate:	Date:
Address of the candidate:	

Acceptance letter of industry/ educational organization Ref no. _____	Date _____ (copy enclosed)	
Recommendation from	Name	Signature with date
TPTC of the department		
DPPC Coordinator		
HOD of the department		
Head (T&P Cell)		

**Forwarded for approval to:**

**Dean (Academic)/ Director**



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## **FORM 4**

### **NOC from Company for Publication Work**

Name of the candidate: _____	Scholar Number: _____
Department: _____	Name of Programme: _____

Name of the company: _____
Specific Area of Internship: _____
Period of Internship: _____

Title of Paper: _____ (Attach the copy of paper signed by the supervisor)
---

Name of the conference/ Journal: _____ (Attach the information Brochure)
---

Recommendation from supervisor: _____ _____ _____
---

Date: _____	Name and Signature _____
-------------	--------------------------

Recommendation from TPTC of the department: _____ _____
---

Date: _____	Name and Signature _____
-------------	--------------------------

Forwarded by the TPO to the concerned company/ educational organization for getting NOC _____ Date: _____	Name and Signature of the TPO _____
---	-------------------------------------

<b>NOC from the concerned company:</b>	
<input type="checkbox"/> RECEIVED <input type="checkbox"/> NOT RECEIVED	
Date: _____	Name and Signature in the company/educational organization _____

**NOTE:** TPO will forward NOC to TPTC of the department for information to supervisor and concerned candidate.

# Ordinance for Undergraduate Programmes, 2024



**MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY**

BHOPAL (M.P.) 462003

(An Institution of National Importance under Ministry of Education, GOI)

June 2024

## List of Acronyms

<b>Term</b>	<b>Definition</b>
AIU	Association of Indian Universities
B.Arch.	Bachelor of Architecture
BOS	Board of Studies
B. Plan.	Bachelor of Planning
B.Tech.	Bachelor of Technology
CFTI	Centrally Funded Technical Institute
CGPA	Cumulative Grade Point Average
DASA	Direct Admission of Students Abroad
DUPC	Departmental Undergraduate Program Committee
EWS	Economically Weaker Section
GoI	Government of India
ICCR	Indian Council for Cultural Relations
IIIT	Indian Institute of Information Technology
IIT	Indian Institute of Technology
MACT	Maulana Azad College of Technology
MANIT	Maulana Azad National Institute of Technology Bhopal
MEA	Ministry of External affairs
M.Tech.	Master of Technology
NIT	National Institute of Technology
NPTEL	National Programme on Technology Enhanced Learning
OBC	Other Backward Class
RPWD	Rights of People with Disabilities
PhD	Doctor of Philosophy
PWD	Person with a Disability
SAT	Scholastic Assessment Test
SC	Scheduled Caste
Senate	MANIT Academic Senate
SGPA	Semester Grade Point Average
SII	Study in India
ST	Scheduled Tribes
TA	Travelling Allowance
TPO	Training and Placement Office
UFM	Unfair Means
UG	Undergraduate

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## **1. INTRODUCTION**

Maulana Azad National Institute of Technology Bhopal (MANIT), Madhya Pradesh, formerly the Maulana Azad College of Technology (MACT), has been amongst the first eight Regional Engineering Colleges established in the country and was inaugurated on 4<sup>th</sup> September 1960. The Ministry of Human Resources Development (now The Ministry of Education), Government of India, New Delhi, has upgraded the institute as the National Institute of Technology (NIT), and has recognized it as “An Institution of National Importance”.

Set up over an area of 650 acres on a separate plateau, MANIT Bhopal campus comprises administrative and instructional buildings, residential and recreational accommodation for students and staff, and provides general amenities like Post Office, Bank, Shopping center, Dispensary, Auditorium, and Sports facilities on its campus.

As an Institution of National Importance, MANIT Bhopal offers undergraduate, postgraduate, dual degree and PhD programmes in various disciplines. These undergraduate programmes are designed to inculcate concepts and skills, courage and integrity, awareness and sensitivity to the needs and aspirations of Indian society with an aim to achieve objectives of:

- Providing highest level of education in technology and science,
- Promoting a spirit of free and objective enquiry in different fields of knowledge, and
- Making a significant contribution towards the development of skilled technical manpower to meet the growing demands of our nation.

This UG ordinance sets out procedures and requirements of the undergraduate programmes of study at MANIT Bhopal.

### **1.1 Undergraduate Programmes**

The institute currently offers the following UG programmes:

1. Four-year Bachelor of Technology (B.Tech.) in Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics and Communication Engineering, Materials and Metallurgical Engineering, and Mechanical Engineering.
2. Four-year - Bachelor of Planning.
3. Five-year - Bachelor of Architecture.
4. Five-year Dual Degree in Mathematics and Data Science (B.Tech. and M.Tech.)

## **2. ACADEMIC SESSION**

The academic session normally begins in July every year and ends in May-June. It is divided into two semesters:

**Semester I:** July to November-December

**Semester II:** January to May-June

Each of the two semesters comprise around eighteen (18) weeks of study including a one-week mid-semester break. The last week of each semester is used for holding the end-semester examinations. There are about 16 working weeks in each semester.

## **2.1 Academic Calendar**

Academic Calendar specifies all the important events during an academic session such as semester registration, scheduled commencement and end of classes, examination dates, submissions of grades, student events, mid-semester break, vacations, etc. Academic Calendar is approved by the Institute Senate for each academic session.

## **3. ADMISSIONS**

Admissions to UG programmes are processed as per the policies and amendments laid down by the Ministry of Education, Government of India from time to time for admissions to various NITs/IIITs/CFTIs.

Fifty percent of the total seats are reserved for candidates belonging to home State of Madhya Pradesh and remaining fifty percent are allotted to students from other States. The admissions are governed by Central Counseling Board constituted by MoE. The reservation of SC/ ST/ OBC/ PWD/ EWS/supernumerary quota for female candidates follows the GoI norms.

Apart from this, the Institute also offers admission to foreign students through DASA/ ICCR/ SII/ MEA as per the directives of Govt. of India. MANIT Bhopal has formulated its own eligibility criteria specifically for the students admitted through the ICCR/SII portal as detailed in Annexure 1.

### **3.1 Change of Programme and/or Branch**

The students shall normally pursue the respective B.Tech./B.Arch./B.Plan./Dual Degree programme allocated at the time of admission. However, after the declaration of second semester result, the Senate may permit a limited number of academically meritorious students to change their programme/branch as per the applications received and vacant seats available that year in the particular category. Change of programme/branch is limited to students of B.Tech. and Dual Degree only.

### **3.2 Cancellation of Admission**

The Institute may cancel the admission of any student who:

- fails to submit the prescribed documents by the specified date or
- fails to meet other stipulated requirement(s) such as payment of fee etc.

The Institute may also cancel the admission at any later time if it is found that the student had supplied false information or suppressed relevant information while seeking admission.

## **4. CURRICULUM**

Details of the curriculum for the undergraduate programmes are contained in the ‘Schemes and Syllabus’ updated and uploaded on Institute website from time to time. The task of updating the ‘Schemes and Syllabus’ lies with the Board of Studies (BOS) of the respective departments.

### **4.1 Course Credits**

The Credits of an undergraduate course is /are determined as follows:

S. No.	Description	Credits
1.	A theory course with $n$ lectures/tutorials per week	$n$
2.	If a theory course with $n$ lectures/tutorials per week also has a laboratory component of a) 2 or 3 hours duration per week b) 4 or more hours duration per week	$n+1$ $n+2$
3.	Independent laboratory course of $m$ hours duration per week	$m/2$ (rounded off to the next higher number)

A regular course may usually have credits ranging from 2 to 5.

## **5. REGISTRATION**

Every student is required to register each semester for the courses to be pursued as per the prevailing scheme, on the dates specified in the Academic Calendar. A student must ensure that he/she has completed the pre-requisites, if any, for each course to be registered. ***The sole responsibility for registration rests with the student concerned.***

### **5.1 Registration Procedure**

The student needs to register and pay fee as per the laid down procedure within the time limits setup by the Institute.

### **5.2 Late Registration**

If, for any compelling reason like illness, etc. a student is unable to register on the day of registration, he/she can register till the late registration day specified in academic calendar on payment of stipulated late registration fee.

### **5.3 Adding and Dropping of Elective Courses**

A student may add or drop course(s) during the first two weeks of the beginning of a semester without exceeding any last date specified in the Institute academic calendar to add or drop courses. For this, he/she must fill the appropriate form, get the endorsement of the Subject coordinator for the subject being added and dropped, and submit the form

through the DUPC of his/her UG Programme for approval of Dean (Academic). Adding a course shall be subject to the limited vacancy available in that course.

A student may also be required to drop a course if there is an unresolved clash in the student's time table preventing him/her from attending the course, or if he/she is found not entitled to register for that course for any reason.

#### **5.4 Academic Load for the Students**

A student is normally expected to register for five/six courses every semester as per the respective scheme. Each course carries a weightage in terms of credits depending upon the number of contact hours (lectures and tutorials) and/or laboratory hours.

However, beginning the third semester, a student may be permitted by the Dean (Academic) on the recommendation of Departmental Undergraduate Committee (DUPC) to take an overload of one course every semester to (a) enrich his/her knowledge or (b) clear backlogs. The student may choose if he/she wishes to audit or credit the overload.

The option of 'credit' would imply its inclusion in the calculation of CGPA with award of grades in the range A+ to F. These overload credits would be over and above the minimum credit requirement of the student's (departmental) programme except when the overloading is opted for reasons of clearing a backlog which the student is unable to clear in his/her own branch.

The option of 'audit' would imply an exclusion of the course from the calculation of CGPA, and also its exclusion from the regular grades A+ to F. Besides the regular courses, departments may offer exclusive 'Audit' courses approved by the Senate from time-to-time with credits as less as 1-2 to promote general awareness on topics related to enhancement, promotion, and dissemination of the 'Indian Knowledge System' and on topics related to current developments at the frontiers of scientific research.

Similar to the provision of overload, the Dean (Academic) on the recommendation of DUPC may allow a student, for *bona fide* reason such as academic deficiency, to undertake a reduced load to enable the student to clear his/her programme at a slower pace of convenience.

#### **5.5 Registration of a Deficient Student**

A deficient student is one who has a SGPA of less than 5. The deficiency may be due to poor grades, not attending course(s) for health and/ or other reason(s), etc. The students who are not able to get SGPA of 5.0 will be permitted to improve their grades by re-registering in courses where the student has been awarded grades below the "C" grade whenever these courses are offered again. Where a change of scheme occurs and the course is not offered again, the DUPC may replace the relevant course with its nearest

equivalent for possible improvement by the deficient student. Such students may also be permitted to opt for reduced load on the recommendation of their respective DUPC.

### **5.6 Remedial Classes**

The Institute may offer and make provision of remedial classes for ‘Deficient’ students or for students requesting such classes for *bona fide* reason such as for serious medical reasons. The students would need to approach their respective course coordinators with request for remedial classes beyond the regular classes’ timings. Such remedial classes shall be offered and notified by the concerned course coordinator under the approval of the concerned HOD. The attendance of remedial classes, however, shall not accrue to the student in the form of his regular attendance.

### **5.7 Fee relaxation for students from socially and economically weaker sections**

The facility of relaxation in fee shall be extended to students from socially and economically weaker sections of society as per the GOI norms updated from time to time. The modalities shall follow the laid down Institute policy.

### **5.8 Multiple Exit/Entry Options**

The student can avail options of multiple exits from the programme after successful completion of a minimum of four semesters. The Senate will prescribe the Certificate/ Diploma/ Advance Diploma/ Degree to be awarded to the student availing the exit option only upon the request of the concerned student, except where the student successfully completes his/ her programme to which the admission was initially made.

The exit option can be exercised with possibility of re-entry to the same course to complete higher stage of his/her remaining programme with an upper limit of gap from the time of exit to the time of re-joining, as prescribed by the Institute Senate. Normally the exit gap may not exceed a period of 3 years on every exit availed. This gap shall not be counted for computing the maximum permissible duration of the programme.

In case the scheme has changed at the time of reentry, the student shall be governed by the scheme in force at the time of his reentry into a specific semester. After successful completion of Certificate/ Diploma/ Advance Diploma/ Degree, the student shall be notified and awarded the appropriate certification with an appropriate remark about having availed the exit options.

### **5.9 Provision of AB/BA System**

In order to facilitate a student who has missed an entire semester for some *bona fide* reason and to enable him/her to complete the programme in the shortest possible time, the student shall be allowed to register for the next semester without clearing the previous

semester in its entirety. On the recommendation of DUPC, and approval of Dean (Academic) such students will be allowed to subsequently complete their missed-out semester i.e., allowing a backward or BA movement relative to the normal AB movement of students into their successive semesters. While approving the BA movement, the DUPC may duly consider the prerequisites and may allow reduced load in such a case to be compensated by an overload in the subsequent semesters.

Such BA students may also be allowed the benefit of multiple exits, although their benefit will accrue in the odd semester.

## **6. ACADEMIC TEACHING AND EVALUATION**

### **6.1 Evaluation**

The evaluation of students in a course is a continuous process and is based on their performance in mid-semester examination, quizzes, assignments, laboratory work (if any), end-semester examination, etc. As guidelines, Annexure 2 exhibits typical distribution of marks in a continuous evaluation process.

With the help of a Senate Sub-Committee, the Senate may specify from time to time the marks distribution to be generally adhered by the course coordinators. A course coordinator who wishes to differ his/her evaluation from the general distribution, shall have to make a written request elaborating the reasons within 3 days of the beginning of the semester to the Dean (Academic), who with the help of a Senate Sub-Committee or otherwise may approve a modified distribution as suggested by the subject coordinator for the specific subject for which the request had been made.

#### **a) Schedule of Examinations**

All examinations shall usually be held during the periods/ days specified in the Academic Calendar. The schedule for the mid-semester examination and the end-semester examination would be declared by the respective departments.

#### **b) Make-up Examination**

If a student, for *bona fide* reasons, fails to appear in the Mid-Semester/ End Semester examination, he/ she may make a request to the concerned Course Coordinator for a make-up examination within three days of the date of the scheduled examination. Such a request must give reasons for the failure to appear in the examination with a certificate from a recognized Medical Officer of the Institute dispensary in case the failure to appear in the exam was due to illness. Such cases shall be kept in DUPC which may approve the make-up examination with due intimation to the Dean (Academic). The make-up exam shall be held within 2-weeks of the end-semester examination. The student in such make-up examinations shall be awarded a reduced or scaled-down marks fixed by the Senate (for instance, 80% of the actual scored marks as a guideline) in order to discourage the student from deliberately missing the exams for non bona-fide reasons. Deficient students with D+ and D grades may also

be permitted to undertake such make-up exams. However, the make-up exams shall not be open for a student getting F grade in the regular exam since in this case, the subject would need to be necessarily repeated.

Only one make-up examination, for the mid-semester OR end-semester examination shall be allowed per course. In case of failure to appear in both mid and end semester examinations, the student shall be deemed to have withdrawn from the course and shall be awarded ‘W’ grade.

## 6.2 Grading System

### a) Credits, Grades, Semester and Cumulative Grade Point Average

At the end of the semester, a student shall be awarded a letter grade based on relative performance in each of his/her courses by the concerned Subject coordinator taking into account student’s performance in various examinations, quizzes, assignments, laboratory work (if any), etc. The grades shall be displayed to the students and officially submitted by the concerned Subject coordinator within prescribed time-limit after the end-semester examination.

The Institute prescribes thirteen letter grades: A(+), A, B(+), B, C(+), C, D(+), D, F, I, NP, NF and W. The letter grades and their numerical equivalents on a 10-point scale (called Grade Points) are as follows:

Grade	Points	Description of performance
A (+)	10	Outstanding
A	9	Excellent
B (+)	8	Very Good
B	7	Good
C (+)	6	Satisfactory
C	5	Average
D (+)	4	Below Average
D	2	Marginal
F	0	Fail
I	-	Incomplete
NP	-	Audit Pass
NF	-	Audit Fail
W	-	Withdrawal

- b) Fail Grade “F”:** A student who is awarded ‘F’ grade shall have to repeat the course whenever it is offered again. Where the student is unable to repeat the course for reasons beyond his control such as the non-offering of an elective or a change of scheme, the DUPC shall replace the relevant course with its nearest equivalent for completion by the student. However, if in the repeat course or its equivalent the student once again ends up earning ‘F’ grade, then he/she shall have to opt for a

replacement/differing course with the approval of DUPC of the concerned department for completing the required credits.

- c) **Incomplete Grade “I”:** A student may be awarded the grade ‘I’ (Incomplete) in a course if he/she has missed, for a *bona-fide* reason, a minor part of the course requirement but has done satisfactorily in all other parts. An ‘I’ grade may be awarded for not appearing in Mid-Semester/End-Semester exam because of medical/unforeseen reasons and for instances of use of Unfair Means (UFM) in the exams. An ‘I’ grade shall remain a temporary grade, and must, be converted by the Subject coordinator into an appropriate letter grade and communicated to the COE office by the last date specified (usually 3 days after the make-up examination). Any ‘I’ grade still outstanding three days after the last scheduled make-up-examination shall be automatically converted into the ‘W’ grade, and the student will be deemed to have withdrawn from the course.

All instances of UFM cases shall be dealt in separately by the Senate-sub-Committee SUPC that may invite the HOD of the concerned department, Prof. I/c (Exam) of concerned department, Subject Coordinator and invigilators for helping to arrive at a decision. Depending upon the gravity of offense, the committee may recommend withdrawal from the course with grade ‘W’ / award of barely passing grade/ one-lower grade/ penalization of 5-20% marks etc. to arrive at a grade that would eventually replace the ‘I’ grade awarded earlier.

- d) **Withdrawal Grade ‘W’:** A student who is deemed to have officially withdrawn from a course for which he/she had earlier registered shall be awarded a ‘W’ grade. This grade may be awarded because of reasons such as extreme shortage of attendance and/or punitive action on disciplinary ground or on ground of serious UFM practices adopted. In all such cases the student shall be deemed to have undergone a forced withdrawal from a course with a letter grade ‘W’ awarded. The student may also voluntarily choose to withdraw from a course upto until the beginning of mid-semester examination by informing the course coordinator in writing. In case of ‘W’ grade, the student may have to opt to repeat the entire course whenever it is offered next time if it is a core course deemed necessary for the programme by the DUPC. Where a change of scheme occurs and the course is not offered again, the DUPC shall replace the relevant course with its nearest equivalent.
- e) **‘NP/NF’ grades:** Beginning the Third semester, a student may audit courses with the permission of the subject coordinators and the DUPC. Overall, courses worth upto 15 Credits may be audited during the stay at MANIT and this load shall be in addition to the normal academic load required in the semester. Auditing a course shall imply that the course shall not be included in the SGPA/CGPA calculations, and only Audit Pass (NP) / Audit Fail (NF) grades shall be awarded to the student.
- f) **Change of Grade Already Awarded:** A letter grade once awarded shall not be changed unless a request for change is made by the subject coordinator of the course and the same is approved by Chairman, Senate on grounds of serious discrepancy on the part of the course coordinator in the award of grade. Any such request for change of grade must, however, be made within four weeks of the start of next-semester in the prescribed form with all relevant records placed for justification.

g) **Semester Grade Point Average (SGPA):** The Semester Grade Point Average (SGPA) is a weighted average of the grade points earned by a student in all the courses credited and describes his/her academic performance in a semester.

$$SGPA = \frac{\sum_{\text{Semester}} (\text{Course credits} \times \text{Grade point})}{\sum_{\text{Semester}} (\text{Course credits})}$$

h) **Cumulative Grade Point Average (CGPA)** - The Cumulative Grade Point Average (CGPA) indicates the overall academic performance of a student in all the courses registered up to and including the latest completed semester. It is computed in the same manner as the SGPA, considering all the courses, and is given by

$$CGPA = \frac{\sum_{\text{All Semesters}} (\text{Course credits} \times \text{Grade point})}{\sum_{\text{All Semesters}} (\text{Course credits})}$$

Whenever a student is permitted to repeat or substitute a course, the new letter grade shall replace the old letter grade in the computation of the CGPA, but both the grades shall appear on his/her Grade Report.

- i) **Withholding of Grades** – The semester grades of a student may be temporary withheld if he/she has not paid his/her dues, or if there is a case of indiscipline pending against him/her till the matter get resolved.
- j) **Course evaluation-** The DUPC shall have the authority to make provisions of internal or external course evaluation for project-based subjects.

### **6.3 Institute Internship Policy**

MANIT Bhopal encourages its students to undertake internships within India or abroad.

#### ***Eligibility:***

1. B. Tech./B. Plan./Dual Degree Students shall be eligible for internships of varying durations, no less than two weeks, as per their choice and convenience. For B. Arch. students, a full-semester chosen internship is mandatory.
2. During the pre-final year, the student can undertake internship either in the summer and/or winter vacations limited to the duration of vacations.
3. A full semester long internship can only be undertaken in final year of the B. Tech. /B. Plan./Dual Degree programmes.

#### ***Duration:***

The duration of the internship shall be of minimum of two weeks and maximum of one semester plus a part of vacations, after completion of which the candidate must mandatorily report back to the Institute.

***Norms and Procedure:***

- Interested students shall submit application with an offer letter, and fill up an undertaking in the prescribed format for submitting to the respective HoD.
- The DUPC shall assign a supervisor of relevant specialization to the student who shall track the student's regular progress.
- The recommendations of DUPC alongwith the name of assigned supervisor shall be forwarded to office of TPO for necessary approval of the Competent Authority and issuance of order.
- Candidate shall report his/her fortnightly (15-day) progress to the Supervisor through online presentation/video conferencing/physical presence whichever is feasible.
- Where the student avails a one-semester long internship, the student shall still have to mandatorily undergo regular registration at the Institute by paying the requisite fee besides fulfilling due academic requirements prescribed by the Institute
- After the successful completion of the Internship, the student shall submit a report of the work carried out to his/her Supervisor duly countersigned by Industry mentor/ authorized person with certificate of successful completion of the Internship.
- Final evaluation of the internship shall be made through presentation by the student and its evaluation by a project committee which shall also include the concerned Internal Supervisor of the student.

**6.4 Online Courses**

Student can register for online courses against an elective as per the approved scheme of the programme based on the recommendation of DUPC. The Online courses must be from sources such as NPTEL / SWAYAM and other agencies as approved by the respective DUPC. Credits will be earned only when such courses are of minimum 36 hours / 12 weeks duration and are evaluated by the agency offering the online course. Corresponding Institute grades will be decided by the DUPC. However, a 'Fail' in the course shall be deemed to be 'F' grade at the Institute with the student requiring to undertake a replacement online/offline course approved by the DUPC.

In case an online course is not evaluated by the offering agency i.e., grades are not provided, the students will have to appear in examination conducted by the department for evaluation and grading purpose. DUPC will appoint a faculty of relevant specialization to evaluate such students and to provide an appropriate grade.

***Norms and Procedure:***

- The students shall be permitted to opt for online courses from their V Semester onwards. These courses should be aligned with list of electives as per the prevailing scheme.
- The DUPC of the Department shall make its recommendation of the online courses to be taken by the student equivalent to the courses of the respective semester.

### **Progress & Evaluation:**

- Upon satisfactory completion of the course, the grade issued online shall be submitted to DUPC for onward compilation of results.
- The students shall bear all the costs associated with online courses. Institute shall not be liable to any such costs.
- The students proceeding on Internships of full semester duration shall have to opt compulsorily for online courses only in order to fulfill the academic requirement.

### **6.5 Rights of Persons with Disabilities**

Institute is committed to make necessary provisions by way of various Assistive Technologies and relevant physical and digital Infrastructure to facilitate students admitted under PWD category as per RPWD Act 2016 of the GOI.

## **7. INADEQUATE ACADEMIC PERFORMANCE**

### **7.1 Deficient Academic Performance**

A deficient student having SGPA of less than 5, may be placed on *Warning*, or his/her academic programme may be *Terminated* depending on the degree of inadequacy.

### **7.2 Warning**

A deficient student shall be placed first on ‘warning’ with a letter to the effect issued by the Dean (Academic) to the student, a copy of which shall be sent to his/her parents/guardian. Such a student would be required to sign an undertaking incorporating the following terms and conditions:

- i) His/Her academic load may be reduced by at least one course,
- ii) He/She shall obtain a minimum SGPA of 5.0 in the succeeding semester
- iii) He/She shall not hold any office in the Hostels, Students Council or any other organization/body during academic probation.
- iv) Any other term/condition as laid down by Senate.

The parents/guardian will be required to countersign the undertaking.

## **8. VARIOUS COMMITTEES**

### **8.1 Senate**

The Senate of MANIT Bhopal is the apex academic body set up under the NIT’s ACT 2007, and deals with all academic matters governing the Institute. The Senate controls, regulates, and maintains the standards of instructions, education, and examination in the Institute and exercises such other powers and performs such other duties as may be

conferred or imposed upon it by the NIT Statutes. The Director of the Institute acts as the ex-officio Chairman of the Senate.

The Senate of MANIT Bhopal conducts itself through specific Senate Sub-Committees set-up by the Chairman Senate from time to time.

## **8.2 Disciplinary Committee**

A disciplinary committee shall handle all cases related to student indiscipline. This committee comprises the Dean (Student Welfare), Chairman Council of Warden, Concerned HOD, Concerned Wardens, Proctor and Assistant Proctor(s). The committee meets as and when required and sends the recommendation to the Director of the Institute for final approval.

## **8.3 Departmental Under-graduate Programme Committee (DUPC)**

The Departmental Under-Graduate Program Committee (DUPC) shall be responsible for implementation and monitoring of all academic matters related to individual UG programmes. If an issue cannot be resolved amicably in the DUPC, the matter has to be referred to the Senate Undergraduate Programme Committee (SUPC) whose decision will be binding upon the DUPC. The DUPC is expected to have its meeting regularly and to keep record of its decisions.

### ***Constitution of DUPC:***

1.	Chairman	HOD of concerned department.
2.	Members	<p>Two Professors, One Associate Professor and One Assistant Professor form the Department/ Centre. In case of lack of member at a particular cadre, the same may be opted from the other cadre. In case the quorum is not available in the parent department, the members can be opted from other department/ Centre.</p> <p>One Professor/ Associate Professor from other department</p> <p>Two student representatives (preferably one male and one female student, from two different batches of the UG prog, except the first and the final year) nominated by the HOD</p>
3.	Coordinator	A member of DUPC nominated by concerned HOD.

## **8.4 Senate Undergraduate Program Committee (SUPC)**

The Senate Under-Graduate Program Committee (SUPC) shall be responsible for implementation and monitoring of all academic matters related to UG Programmes offered at MANIT. It shall act as Senate sub-committee to address and resolve academic

matters related to UG programmes, forwarded by DUPC (if not resolved at the level of DUPC).

#### ***Constitution of SUPC:***

1.	Chairman	Dean (Academic).
2.	Members	Chairman, DUPC of all the Departments offering UG programmes.
		Two UG student representatives (preferably one male and one female student from pre-final year) nominated by Dean Academic
3.	Convener	Associate Dean (UG).

#### **8.5 Board of Studies (BoS)**

The BOS is constituted for every Department/Centre with Dean (Academic) acting as the Chairperson and the HOD of the relevant department/center acting as the Convenor. The BOS shall have external and internal members nominated by the Chairman Senate as per the norms laid down by the Senate from time to time. Typical constitution of the BOS shall be as per the following

- Dean Academic (Chairperson)
- Head of the Department/Centre (Convenor)
- One External Academic expert from Institution of National Importance, preferably IITs
- One External Industry/National Research Laboratory expert
- One Distinguished alumni of the concerned discipline
- All faculty members of the concerned Department/Centre

The BOS will have the following roles:

- Revision, modification, and vetting of the Scheme and Syllabus related to department.
- Addition, deletion, and renaming of courses and electives
- Proposing new programmes or closing the existing programmes within the department.
- Any other relevant academic matter.

The HOD shall ensure thorough discussion and consensus on the agenda of BOS in a Department faculty meeting before taking the matter on the agenda of the BOS.

### **9. LEAVE AND VACATIONS FOR THE STUDENTS**

#### **9.1 Leave during Semester**

Leave during semester shall be strongly discouraged for all registered students. However, only for *bona fide* reasons, a student may be granted authorized leave of absence by DUPC during the semester as under:

**Maximum of 15 days** on proven medical grounds

**Maximum of 15 days** for any other valid and proven reason

The above shall be subject to minimum requirement of attendance as prescribed by the Institute Senate from time to time.

A student who avails authorized leave of absence due to medical reasons shall be required to submit a certificate from the MANIT dispensary doctor in case the medical exigency arises during his/her stay at Bhopal.

Unauthorized leave of absence from the Institute for a period exceeding 3 weeks at a stretch will result in automatic withdrawal of the student from all courses in that semester. In such cases, the concerned teacher would need to inform the DUPC of prolonged unauthorized absenteeism of specific student. DUPC would subsequently initiate action on the concerned non-reporting student.

## **9.2 Mid-semester Breaks and Vacations**

Undergraduate students are entitled to avail mid-semester breaks during the semester and vacations at the end of semesters as specified in the Academic Calendar.

## **9.3 Permission to Proceed to other Institutions**

In order to help a student to broaden his/her horizon, he/she may be permitted to proceed to premier academic institutions in India or abroad as a non-degree student.

The following guidelines and procedures apply for this purpose:

A student who satisfies the minimum eligibility conditions given below may spend up to two semesters in any academic institution of repute in India or abroad with prior permission of Dean (Academic).

### **a) Eligibility -**

- i) Completion of first four semesters of course work,
- ii) CGPA of at least 8.0

### **b) Procedure -** The student shall make an application to the Dean (Academic) through the concerned DUPC, giving details of the proposed programme and shall submit a statement of purpose with sufficient information about the institution where he/she has chosen to spend time as a non-degree student.

The Dean (Academic) with the help of a Senate Sub-Committee or otherwise shall examine the student's application to determine whether the proposed programme is of a nature, both in quality and quantity, which on successful completion will justify the permission to proceed to other Institution. On the recommendation of the Dean (Academic), the Senate may approve the proposal and grant permission

to the student applicant to proceed as a non-degree student to the permitted institution. Prior to joining the other Institute, the student shall submit at MANIT all relevant documents related to his/her temporary admission in other Institute, and upon his joining the other Institute the student shall send all his/her academic load details. MANIT shall then proceed for granting equivalent academic credits on his/her return.

- c) **Transfer of Credits and Waiver in-lieu thereof-** Permission to proceed to another institution as a non-degree student does not imply that the student will automatically get waiver from the academic and other requirements of his/her ongoing undergraduate programme at the Institute.

When the student returns from the course, he/she may apply for waiver with an official transcript of the grades obtained by him/her at the selected institution as a non-degree student and other documents/material that the Dean (Academic) may require for evaluation. The Dean (Academic) will determine, by whatever means he/she deems fit, the equivalent courses and/or requirements for which the student may be given a waiver in his/her undergraduate programme at the Institute.

Against each course or requirement for which a waiver is granted, a “*Waiver*” would appear on the Grade Report with an explanatory note that it stands for waiver granted due to courses undertaken at the selected Institution elsewhere.

Those students who are allowed, by way of prescribed rules and procedures, to proceed under an Institutional Exchange Programme will also be governed by the above clauses for transfer of academic credits and related waivers etc.

## 10. REQUIREMENTS

### 10.1 Minimum and Maximum Residence Duration

The minimum and maximum residence duration requirements for various undergraduate programmes are as follows:

UG Program	Minimum Residence	Maximum Duration
B.Tech and B.Plan	Four Years	Seven Years
B.Arch and Dual Degree	Five Years	Eight Years

### 10.2 Academic Requirement

A student is required to complete successfully all the courses of the curriculum prescribed for his/her undergraduate programme and attain a minimum level of academic performance, i.e., obtain a minimum CGPA of 5.0

### **10.3 Graduation**

A student is deemed to have completed the requirements for graduation if he/she has

- a) earned prescribed minimum number of credits as per the prevailing scheme of study
- b) met the residence and academic requirements outlined in Sections 10.1 and 10.2
- c) satisfied additional requirements, if any, of the concerned department,
- d) cleared all the dues of the Institute and the Hostels, and
- e) no case of indiscipline is pending against him/her.

## **11. DEGREES**

### **11.1 Award of Degrees/Certification**

A student who completes all the graduation requirements specified in Section 10.3 shall be recommended by the Senate for the award of the appropriate degree/certification in the ensuing convocation.

### **11.2 Withdrawal of the Degree/Certification**

Under exceptional circumstances where gross violation of the graduation requirements is detected at a later stage, the Senate may recommend to the Board of Governors, withdrawal of a degree/certification already awarded.

## **12. SCHOLARSHIPS, PRIZES, MEDALS, AND PROFICIENCY CERTIFICATES**

A Senate sub-Committee on Scholarships and Prizes Committee (SSPC) shall determine the general policy regarding recommendations for the award of the different types of scholarships, stipends, medals, and prizes awarded to Institute students. The Committee shall detail norms and conditions for the award of various scholarships, prizes and medals from time to time, and make recommendations to the Senate for its final approval.

### **12.1 Other Incentives to students**

#### **Incentives for Attending Short-Term Courses/Seminars/Conferences/Workshops/Symposiums etc.**

1. UG Students may be reimbursed the registration fee and expenses of travel for Paper presentation/ short-term courses/ seminars/ conferences/ workshops/ symposiums etc.
2. For any such events, the Department must justify the need for participation of the student and certify if the event is of such importance (for instance, if the conference is Scopus/Non-Scopus) as to merit financial incentive to the student as well as his/her authorized leave of absence from ongoing classes.

3. The quality of publication/presentation shall be scrutinized by DUPC, which shall thereafter make recommendation with due justification to be forwarded to Dean (Academic).
4. Student can preferably avail institute financial support from Sponsored Research/Consultancy Projects of his/her mentor. In case of non-availability of such support, based on the merit of the proposal, the Dean (Academic) may approve financial support as per the prevailing Institute norms.

### **Award for research and patents**

The Institute shall encourage and incentivize research and patents by the students through scholarships, prizes, medals, and proficiency certificates and shall provide limited financial support for all meritorious activities related to research and patents.

### **Incentives For Start-ups**

The Institute has its Start-up policies and mechanisms in place that incentivize and encourage student start-ups, and facilitate them with mentorship, incubation, and seed funding at MANIT ROLTA Incubation Centre.

Students showing potential interest towards working for Startups and/or Entrepreneurship activities shall be encouraged and facilitated in raising seed money or prototype funding. Students may also earn academic credits for pursuing startup-related activities at MANIT Bhopal under the category of ‘project-based’ labs with equivalent course credits awarded on the recommendation of MANIT ROLTA Incubation Centre and its subsequent approval by the Institute Senate.

Students interested to work for technology development with the help of incubated startups already existing with MANIT Bhopal or outside of Institute are encouraged to do so with mutual agreement between the parties facilitated by the Institute. If a student wishes to get credit for the work carried out in other startups and innovation projects, then the same may be awarded on a case-to-case basis for a maximum of credits assigned to ‘project-based’ labs in the scheme after due evaluation of the work by the MANIT ROLTA Incubation Centre which shall make recommendation to the Dean (Academic) in order to secure approval of Senate.

## **13. CONDUCT AND DISCIPLINE**

### **13.1 Ragging of Students**

In accordance with the decision of the Hon'ble Supreme Court vide Writ Petition (Civil) No. 656 of 1998, Ragging is an undesirable offence which is totally banned in the Institute. Broadly speaking ragging is ‘any disorderly conduct whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness any other student, indulging in rowdy or undisciplined activities which causes or is likely to cause annoyance, hardship or psychological harm or to raise fear or apprehension thereof in a fresher or junior student or asking the student to do any act or perform

something which such student will not do in the ordinary course and which has the effect of causing or generating a sense of shame or embarrassment so as to adversely affect the physique or psyche of a fresher or a junior student'. Any act of physical and mental abuse (including bullying and exclusion) targeted at junior freshers on the ground of color, race, religion, caste, ethnicity, gender (including transgender), sexual orientation, appearance, nationality, regional origins, linguistic identity, place of birth, place of residence or economic background shall be deemed to have been carried out under the umbrella of 'Ragging'.

MANIT Bhopal strictly and completely bans all forms of ragging, a breach of which attracts punishments as per the decision of the Hon'ble Supreme Court. The punishment rendered shall depend upon the degree of severity of violation and may include the following:

- Debarring from appearing in any sessional/examination or withholding of results
- Suspension from attending classes and academic privileges
- Withdrawal of scholarships and other benefits
- Suspension from the Institute for a period of one month
- Cancellation of admission
- Debarring from representing the institution in any national or international meet, tournament, youth festival, etc.
- Suspension/expulsion from hostel
- Rustication from the institution for periods varying from 1 to 4 semesters or equivalent period
- Expulsion from the institution and consequent debarring from admission to any other institution
- Fine up to twenty-five thousand rupees
- Imprisonment for a term which may extend to two years or with fine which may extend to ten thousand rupees or with both
- Collective punishment – When the students committing or abetting the crime of ragging are not identified, the institution shall resort to collective punishment as a deterrent to ensure community pressure on the potential ridders.

### **13.2 General Rules of Conduct and Discipline**

In order to maintain the reputation and image of the Institute, the students are required to maintain discipline in the campus.

The following shall be treated as acts of indiscipline:

- Willfully damaging or stealthily removing any property belonging to the Institute or to the fellow students.
- Taking part in strikes and/or actively provoking and promoting mass-absenteeism from classes.
- Non-sportsman like behavior during the indoor/outdoor games
- Possession, consumption, or distribution of narcotic products and alcoholic drinks or harmful drugs, smoking etc.
- Possession of fire-arms or lethal weapons in the Institute premises/hostels, examination hall etc.
- Indulgence in any kind of political activity within the Institute premises.

- Addressing the press without permission.
- Forming society/ association/ organization without permission of appropriate authority.
- Inviting any outsider to conduct a disruptive meeting without permission of the appropriate authority.
- Involvement in agitation of any kind which may lead to breach of peace within the campus.

A student who is found to have committed any act of indiscipline is liable to any one or more of the following punishments:

(i) Warning (ii) Censure (iii) Fine (iv) Reduction/ Cancellation of scholarship/stipend/Fellowship (v) Recovery in part or full of losses or damages to the Institute property or property of others caused by the delinquent student (vi) Suspension from availing of any of the Institute amenities and services or from class (vii) Rustication, from the Institute or hostel (ix) Withholding of character certificate (x) Ban on holding post in Student Council/ Association/ Hostel committees (xi) No financial assistance for attending conferences etc, (xii) debarring from appearing in job placement.

#### **14. RIGHT TO AMEND AND INTERPRET**

In case the provisions of this Ordinance need urgent revision or amendment for smooth conduction of academic requirements, the same can be done by Chairman Senate, whose decision shall be ratified in the subsequent senate meeting.

In case of difference of opinion in understanding/interpretation of any rule/regulation, the decision of the Chairman, Senate shall be final and binding.

Notwithstanding anything contained in this ordinance, the Senate of MANIT Bhopal reserves the right to amend and revise without notice the procedures, requirements, and rules pertaining to its undergraduate programmes at any point of time it deems fit.

## **Annexure 1**

### **Eligibility Criterion for admission of foreign students through ICCR/SII portal**

1. Applicant's maximum age as on October 1<sup>st</sup> of that calendar year is 25 years.
2. Applicant must have passed the qualifying examination in English i.e. Senior Secondary (10+2) or equivalent from any system of education as recognized by Association of Indian Universities (AIU).
3. Applicant should have successfully completed the Mathematics, Physics and any of the subject (Chemistry, Biotechnology, Computer Science or Biology) in 11th and/or 12th as applicable in respective Board/ System in English Medium.
4. Applicant must have secured as least 60% aggregate marks (average of all subjects of qualification examination taken examination taken together) or 6.5 CGPA (on a 10-point scale) or equivalent in qualifying examination. In case if grades are only awarded, percentage of CGPA equivalence certificate by the principal examination authorities will be essential.
5. Applicant must have a minimum SAT score of 1440 with Subjects – Mathematics level 2 Physics and Chemistry. For the applicants who have taken multiple attempts, the best valid score in each above subject will be considered for arriving at total minimum SAT score.

Applicant must have studied from level 8 to 12 for Physics, Chemistry, Biology and Maths courses in English medium. A certificate by the principal examination authority should be provided for the same.

## **Annexure 2**

### **Guidelines for Scheme of Evaluation**

#### **Theory**

Mid-Semester Exam- 20 Marks (1 Hour)  
Assignments and /or Quizzes - 30 Marks (Best of five)  
Attendance-10 Marks  
End-Semester - 40 Marks (2 Hours)

#### **Practical:**

Mid-Semester Evaluation- 20 Marks  
Practical records + Viva- 30 Marks (Best of five)  
Attendance-10 Marks  
End-Semester Evaluation- 40 Marks

#### **Studio Based Subjects:**

Mid-Semester Evaluation- 20 Marks  
Continuous Evaluation- 30 Marks  
Attendance-10 Marks  
End-Semester Evaluation- 40 Marks

# Ph.D. ORDINANCE 2024



**MAULANA AZAD  
NATIONAL INSTITUTE OF TECHNOLOGY  
BHOPAL- 462003**  
**(An Institute of National Importance)**

## **CHANGE OF RULES**

Ph.D. Ordinance 2024 is revised in view of minutes of 57<sup>th</sup> Senate Meeting dt. 20.08.2024, approved in **45th BOG Meeting dt 19.09.2016.**

Although the rules and regulations mentioned in this ordinance are not variable but, the Senate, as the Supreme academic body of the institute, from time to time, may revise, amend or alter the regulations, courses of study, their credits and syllabus as and when found necessary. In case a rule needs urgent revision for smooth conduction of academic semester, the same can be done by Chairman Senate and will be ratified in the subsequent senate meeting. ***If there is difference of opinions in understanding/ interpretation of any rule/regulation given here, the decision of the Chairman senate shall be final.***

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	1.6.2.	DRPC: Form & Functions
	1.6.3.	SRPC: Form & Functions
	1.6.4.	RDC: Form & Functions
	1.6.5.	Examination Board: Form & Functions
	1.6.6.	SDPC ( <i>Senate Doctoral Program Committee</i> ): Form & Functions
<b>1.7</b>	<b>Change of Rules</b>	
<b>Proformas</b>		

<b>GLOSSARY OF TERMS</b>	
<b>Academic year</b>	Institutes academic year begins from July 1 and ends on June, 30 every year.
<b>Academic Calendar</b>	The exact dates for the important academic events scheduled during the Academic Session shall be specified in the Academic Calendar.
<b>Applicant</b>	Aspirant desirous to take admission in doctoral program.
<b>BOG</b>	Board of Governors of the Institute
<b>Caretaker Supervisor:</b>	Is the faculty who substitutes internal supervisor during his deputation, study leave, sabbatical leave, lien or any other long leave.
<b>Course Work</b>	Mandatory requirement for Registration where a student has to write examinations and deliver state of art seminars to earn minimum required credit and CGPA.
<b>CFTI</b>	Centrally Funded Technical Institutions
<b>Dean (AA)</b>	Dean (Academic Affairs)
<b>DPPC</b>	Departmental Post Graduate Program Committee
<b>Draft Synopsis</b>	A draft document with abstract of research proposal, methodology and findings with a list of publications submitted for approval by SRPC
<b>DRPC</b>	<b>Departmental Research Program Committee:</b> it is constituted to enforce rules & regulations as per prevalent PhD ordinances and to facilitate and resolve research Scholar's grievances at department level.
<b>DUPC</b>	Departmental Undergraduate Program Committee.
<b>Even semester</b>	Semester that begins in the month of January and closes by June.
<b>External Supervisor</b>	Supervisor who is from outside MANIT, Bhopal.
<b>Final Synopsis</b>	SRPC approved Draft-synopsis
<b>FT &amp; PT</b>	Full time & Part Time doctoral degree program
<b>GATE</b>	Graduate Aptitude Test in Engineering
<b>HE/He</b>	Pronoun 'HE/He' includes both the genders i.e He/she
<b>Institute</b>	Means MANIT Bhopal.
<b>Internal Supervisor</b>	Supervisor who is from MANIT, Bhopal.
<b>JRF</b>	Junior Research Fellow
<b>MOU</b>	Memorandum of Understanding

<b>NET</b>	National Eligibility Test
<b>Odd Semester</b>	Semester that begins in the month of July and closes by December.
<b>PhD Scholar</b>	Same as Research Scholar
<b>Pre-thesis seminar</b>	A comprehensive internal assessment of the research work done by SRPC of the scholar before final thesis submission.
<b>RDC</b>	<b>Research Degree Committee:</b> constituted to evaluate RDC seminar.
<b>RDC Seminar</b>	Seminar conducted by RDC to fix research objectives and thesis title.
<b>Registration</b>	Enrolment for the courses/research that a student wants to pursue during a semester as required by the Program.
<b>Research Scholar</b>	The registered Full-time and Part-time students/scholars in the PhD program of the institute.
<b>Scholar number</b>	Unique identification number (ID) allotted to PhD/Research scholar.
<b>SENATE</b>	Senate of the Institute
<b>SRPC</b>	Student Research Program/Progress Committee
<b>SRPC Seminar</b>	Semi-annual seminar convened by SRPC
<b>Teaching Fellowship</b>	Scholarship offered to Full-time research scholars under various admission categories.

**Note:** 'He' & 'His' imply both genders and may be interpreted as 'he'/ 'she' and 'his'/ 'her', as the case may be.

**1 LIST OF PROFORMAS**

<b>Proforma No.</b>		<b>Name</b>
<b>I</b>		Proforma for Course work
<b>II.</b>		Proforma for Approval of Seminar Expert
<b>III.</b>		Proforma for Evaluation of PhD Seminar
<b>IV.</b>		Proforma for Constitution of SRPC
<b>V.</b>		Proforma for 6th Monthly SRPC Evaluation
<b>VI.</b>	(a)	Proforma for Approval of RDC expert
	(b)	Proforma for RDC Evaluation
<b>VII.</b>		Proforma for Pre-thesis/ Synopsis submission
<b>VIII.</b>	(a),(b),(c)	Proforma for Certificate from Supervisor
<b>IX.</b>		Proforma for Thesis submission
<b>X.</b>	(a), (b)	Proforma for Ph.D. Thesis Viva Evaluation / Attendance sheet

## 1.0. REGULATION FOR DOCTORAL PROGRAM (Ph.D. Degree)

MANIT, an Institute of National Importance, offers doctoral program leading to Ph.D. Degree in Engineering, Architecture, Planning (*Architecture Department*), Science, Humanities & Social Sciences, and Management Studies. The student registered for Ph.D. program has to fulfill criterion of minimum course credit requirements, seminars and a research thesis submission for evaluation and award of Ph.D. degree in respective discipline. Award of doctoral degree is based upon the evaluation of thesis submitted by the scholar and evaluated by two experts in the field, while thesis is a bonafide record of the work done by the research student that embodies discovery of new facts, OR novel interpretation of already known facts & theory, OR independent design of process/product, OR development of new instrument/technology.

The doctoral program leading to Ph.D. degree is offered by all the departments/ centers of the Institute. The provisions contained herein are the governing rules/regulation for doctoral degree program being offered by the institute. The regulations outlined herein establishes rules/norms for delivering requisite coursework, administering examinations, and assessing performance leading to the award of a Ph.D. Degree. The Regulations herein are equally applicable to any new stream which are introduced over the time in any upcoming specialized areas/disciplines. The Senate is the supreme academic body which is authorized to modify, amend, interpret, and enforce decisions related to all academic affairs, including the doctoral degree regulations mandated herein. The Board of Governors (BOG) of the Institute, upon Senate recommendation, may change any or all parts of the Regulations contained herein.

### 1.1 PhD ADMISSION

Aspiring candidate can take admission in any of the PhD program being run by department/centre in the institute under two broad categories as **Full-time (FT)** or **Part-time (PT)** scholar. Each category of **FT** and **PT** admission has different applicable eligibility criteria, qualification and experience requirement as listed in Table-I below. The candidate once admitted in PhD program shall become **Research Scholar** or **PhD Scholar** in the institute with unique identification number (ID) allotted to him. This unique ID termed as '**Scholar number**' can be decoded for the category of admission i.e. **FT & PT, affiliated department/ Centre and year of admission.**

#### 1.1.1 Experience and Qualification requirements

Candidates seeking admission in the doctoral degree program of the institute may apply under various admission categories. The Table-I enlist all admission categories in which institute offers admissions with obligatory qualification and experience requirements. Aspiring candidates

may check qualifications and experience requirement before applying for admission under the designated admission-category.

**Table-I:** Admission Categories

S.No.	Admission Category*	Experience and Qualification requirements
1.	<b>FT- Institute</b> <i>(With Institute Fellowship)</i>	Master's degree in <b>respective discipline</b> with minimum of 60% or CGPA 6.5 ( <i>on a 10-point Scale</i> ) with NET/GATE qualified. <b>OR</b> B.E./B.Tech/B.Arch/B.Plan or Equivalent Degree with minimum of 70% marks or 7.5 CGPA ( <i>on the scale of 10</i> ) plus Valid Gate Score.
	<b>FT- QIP</b> <i>(AICTE-QIP Scholarship Scheme)</i>	The qualification, experience and other eligibility requirement shall be as per AICTE-QIP Scholarship Scheme guidelines. Admission shall be based on the assessment through personal interview of the shortlisted candidates.
	<b>FT-Self-Financed</b> <i>(Without Institute Fellowship)</i>	Master's degree in <b>respective discipline</b> with minimum of 60% or CGPA 6.5 ( <i>on a 10-point Scale</i> ). <b>OR</b> B.E./B.Tech/B.Arch/B.Plan or Equivalent Degree with minimum of 70% marks or 7.5 CGPA ( <i>on the scale of 10</i> ).
	<b>FT- Sponsored</b> <i>(Without Institute Fellowship)</i>	Master's degree in <b>respective discipline</b> with minimum of 60% or CGPA 6.5 ( <i>on a 10-point Scale</i> ). <b>OR</b> B.E./B.Tech/B.Arch/B.Plan or Equivalent Degree with minimum of 70% marks or 7.5 CGPA ( <i>on the scale of 10</i> ). <u>Experience and other Requirements:</u> The Candidate must be an employee of <i>Central/State Government Institutions/organizations</i> . It is mandatory to furnish NOC from the parent organization at the time of application/admission.
	<b>FT-Foreign</b> <i>(Without Institute Fellowship)</i>	Master's degree in <b>relevant discipline</b> with minimum of 60% or CGPA 6.5 ( <i>on a 10-point Scale</i> ). <b>AND</b> B.Tech/ B.E./ B Plan of 04 years duration in relevant discipline or 05 years Degree course in Architecture with minimum 60% aggregate marks or 6.5 CGPA ( <i>on a 10-point Scale</i> ). <u>Experience and other Requirements:</u> <ul style="list-style-type: none"> <li>(i) This category of admission is applicable to <b>foreign students through ICCR scholarship</b>.</li> <li>(ii) The applicant should not be older than 30 years as on 1<sup>st</sup> October of the calendar year.</li> <li>(iii) Must have minimum valid GRE score of 280.</li> </ul>

2.	<b>PT-Institute</b> <i>(Without Institute Fellowship)</i>	<p>Master's degree in relevant <b>discipline</b> with minimum of 60% or CGPA 6.5 (<i>on a 10-point Scale</i>).</p> <p><u>Experience and other Requirements:</u></p> <p>Students with Master's Degree in relevant discipline will be eligible for admission in corresponding Part-time / Executive Ph.D. Programs, subject to their fulfilling the requirements as per Table-II</p>
	<b>PT-Internal</b> <i>(Without Institute Fellowship)</i>	<p>Master's degree in <b>respective discipline</b> with minimum of 60% or CGPA 6.5 (<i>on a 10-point Scale</i>).</p> <p style="text-align: center;"><b>OR</b></p> <p>B.E./B.Tech/B.Arch/B.Plan or Equivalent Degree with minimum of 70% marks or 7.5 CGPA (<i>on the scale of 10</i>).</p> <p><u>Experience and other Requirements:</u></p> <ul style="list-style-type: none"> <li>(i) This category of admission is applicable for regular faculty/staff members of MANIT Bhopal with minimum 01 year of experience.</li> <li>(ii) No change or relaxation in admission process/norms.</li> <li>(iii) Shall undergo a normal selection process as applicable to any other external candidate.</li> <li>(iv) Course work is mandatory similar to any other external candidate.</li> <li>(v) No relaxation in Institute's academic/administrative duties.</li> <li>(vi) No financial relaxation in pursuing Ph.D. program.</li> </ul>
	<b>PT-Sponsored</b> <i>(Without Institute Fellowship)</i>	<p>Master's degree in <b>respective discipline</b> with minimum of 60% or CGPA 6.5 (<i>on a 10-point Scale</i>).</p> <p style="text-align: center;"><b>OR</b></p> <p>B.E./B.Tech/B.Arch/B.Plan or Equivalent Degree with minimum of 70% marks or 7.5 CGPA (<i>on the scale of 10</i>).</p> <p><u>Experience and other Requirements:</u></p> <p>The Candidate must be an <b>employee/officers of central/State Government Institutions/organizations or Industry</b>. It is mandatory to furnish NOC from the parent organization at the time of application/admission. <b>The format of the NOC is given in Annexure A.</b></p>
	<b>PT-Project</b> <i>(With Fellowship from the Project)</i>	<p>Master's degree in <b>respective discipline</b> with minimum of 60% or CGPA 6.5 (<i>on a 10-point Scale</i>) with NET/GATE qualified.</p> <p style="text-align: center;"><b>OR</b></p> <p>B.E./B.Tech/B.Arch/B.Plan or Equivalent Degree with minimum of 70% marks or 7.5 CGPA (<i>on the scale of 10</i>) from an Institute of National Importance/CFTI plus NET/GATE qualified.</p> <p><u>Experience and other Requirements:</u></p> <ul style="list-style-type: none"> <li>(i) This category of admission is applicable for Project Staff/Junior Research Fellow (JRF) working under External funded Projects with approved duration of minimum 3 years and with budget provision of recruiting project staff/JRF from project fund.</li> </ul>

		<ul style="list-style-type: none"> <li>(ii) The candidate will have an obligation to serve the designated project for at least 2½ years after registration as PhD scholar.</li> <li>(iii) Should have qualified GATE/ NET/ or any National Level qualifying test.</li> <li>(iv) Admission will be through Institute process which might include a written test and/or interview.</li> </ul>
<p>*Prefix FT or PT indicates whether admission is as Full-time research scholar or Part-time research scholar</p>		

### 1.1.2 Reservation / Relaxation

Presently, a relaxation of 5% in marks or 0.5 in CGPA is applicable to all category of Full-time and Part-Time admissions (*Table-I*) for SC/ST/PWD candidates,. Any modification in all or anyone admission category of Table-I, shall be notified on Institute website after due approval from the competent authority. Category-reservation of SC/ST/OBC/EWS is as per prevailing GOI norms.

### 1.1.3 Admission Procedure

Application forms for Ph.D. will be made available by the Admission Section with details notified on Institute website. The admission to PhD program shall be through entrance examination, which include written test followed by interview. The applicable procedure for admission to both FT and PT category may include written test and/or interview, which shall be notified in advertisement/institute website with due approval from Senate or Chairman Senate.

Eligible applicants from the organizations having MoU with the MANIT Bhopal will get the admission under sponsored category after having ascertained the eligibility (*as per Table-I*) by the DRPC committee. The basis of the admission under such category shall be Interview/interaction and there shall not be any written test. For admission under AICTE-QIP Scholarship Scheme, the eligible candidates shall have to make an open presentation of the research proposal before the presentation committee followed by the interview. The Interview/selection committee shall comprise of one Professor and Departmental QIP coordinator as members, and HOD of the concerned Dept as chairperson. Final recommendation on the selection of the candidates shall be made by the Interview committee in cognizance with evaluation of presentation committee. Dean(Academic) shall get the final approval from the Director before forwarding the list of selected candidates to AICTE QIP portal for upload and further admission process.

### 1.1.4 Fee Structure

Student taking admission in Ph.D. Programs shall abide by the fee structure as applicable from time to time, or as notified by the institute. All research scholars in Ph.D. programs will have

to pay the prescribed fees which include admission fee, tuition fee and other charges as notified by the institute.

### **1.1.5 Registration Process /Desk Registration**

All eligible candidates of FT/PT PhD program shall have to register in each semester by submitting requisite fee and Desk registration form by stipulated date. The PhD scholars shall begin research journey by registration in course work to be completed in maximum of 02/04 consecutive semesters by FT/PT scholars, respectively. Moreover, a scholar specific 'Student Research Progress Committee (SRPC)' is also required to be constituted immediately after the allotment of supervisor to the candidate. The SRPC has well-defined constitution in **section 1.6** and supervisor as a convener must conduct one meeting in every semester to assess six-monthly progress of the research work. The SRPC report is mandatory for desk registration. The desk registration may be pending due to following exigencies:

- a) If a candidate fails to deliver a SRPC presentation and the supervisor submit a SRPC report to the Academic Section through HoD with comment "Not Reported".*
- b) If the candidate fails to deliver SRPC presentation or gets "Not Satisfactory" SRPC progress reports in two successive semesters, his registration shall liable to be canceled.*

### **1.1.6 Admission Withdrawal/Cancellation**

If a PhD scholar at any point of time choose to cancel/ withdraw his admission, he has to refund the entire amount of Teaching Fellowship drawn from the Institute and his candidature for PhD re-admission shall not be considered for the next 03 Academic years. In addition, if a PhD scholar is found to have been registered concurrently for any other degree program at any other Institute / University, his registration as PhD scholar shall be canceled and he will be expelled from the Institute with due public notification.

All Ph.D. students are required to register in every semester after paying the requisite fee. If a student does not register for two consecutive semesters, his/her admission will stand canceled.

### **1.1.7 Place of Work**

Candidates registered as research scholar in all FT category in Table-I shall have their place of Research work at MANIT, Bhopal.

For candidate registered under **PT-Sponsored** category may have their workplace at the sponsoring Institute/Organization (parent institute/ Organization), if the parent

Institute/Organization has the requisite research facility with due recognition from MANIT authority (DRPC). The recognition will depend on the state of art facilities available in the area of proposed research. The details of such research facilities available in the parent organization shall need be furnished by the candidate at the time of raising application for admission to Ph.D Program. The DRPC shall examine the details as furnished by the applicant, and may ask for further information, or may even collect first-hand information from other sources. Once DRPC is fully convinced about the adequacy of the available research facilities, the parent institute/organization of said scholar may be recognized as his place of work under **PT-Sponsored** category.

## 1.2 ENTITLEMENTS AND OBLIGATIONS

Research scholar of the Institute are entitled for financial support under various heads/government schemes. The entitlement for financial support is mainly available to scholars who are admitted under admission-category **FT-Institute, FT-QIP or PT-Project**. In addition, all PhD scholars are expected to uphold the optimum standard of conduct & discipline in the Institute and in public places. Any breach of conduct rules may fetch regulation and punishment. The subsections below outline all applicable benefits & entitlements, conduct rules and potential repercussions in case of breach.

### 1.2.1 Fellowship Entitlement

Candidates admitted for doctoral degree program as **FT-Institute or PT-Project** are initially eligible for **Fellowship** for a period of **03 years**, which is further extendable to maximum 05 years based on the performance of PhD scholars. The registered scholars under **PT-Project** will get fellowship through Projects or through QIP, CSIR, AICTE, UGC, DAE, DST, or any other equivalent institute/agencies as per applicable norms. These scholars are not eligible for any other financial support from the institute. The candidate shall be registered under **PT-Project** category in those projects only, which guarantee a minimum 03 year fellowship from the funding agency. Moreover, such student shall have to undergo same admission procedure as mandated for admission category **FT-Institute**.

Under **Fellowship** scheme, the PhD Students are required to contribute/assist in teaching/research, or any other co-curricular activities as assigned by their respective HoDs with a minimum workload of up to 8-hours per week. The continuation of fellowship is contingent upon satisfactory performance, as evaluated by both their supervisor and department head. Initially, the normal duration of fellowship is 03 years, which may further be extended in-parts subjected to satisfactory performance and upon recommendation of DRPC and subsequent approval of the institute authority. The **Fellowship** benefits commence from the date of enrollment in the PhD

program in the respective department.

Numbers of seats available across all streams shall be as per the approved government norms. It shall also be governed by the financial implications/available budget and availability of discipline-wise faculty as prospective guides. However, the numbers of seats for Part-time Ph.D. program is variable and shall be decided by the senate-mandate based on the availability of the supervisors.

The admission category eligible for **Fellowship** is tabulated in Table-I. The scholarship offered by other government/ private funding agencies like QIP, UGC, CSIR will be governed by their own respective norms. Continuation of the **Fellowship** is contingent upon satisfactory academic performance and discharge of responsibilities assigned to the scholar under the governing scheme.

The Fellowship may cease under following cases:

- a) Giving false/ fake information at the time of application/ admission.
- b) Failure in obtaining minimum CGPA required for completing coursework.
- c) Not registering for a semester or not depositing requisite registration fees within a stipulated period.
- d) Not delivering SRPC seminar in scheduled time (six monthly report).
- e) Not conforming to prescribed code of conduct or violating Institute discipline rules.
- f) Research progress report with comments “1S/Not Reported”.
- g) Remaining Absent without prior information/ permission for more than 03 months.

Application for extension of fellowship beyond 3 years may be considered, only if the scholar has published at least one ***SCI / SCIE / SSCI*** Journal paper **OR** two Scopus indexed papers in Journals **OR** three papers in Scopus indexed in international conferences **OR** two book chapters from reputed international publications as first author. Only those papers/publications shall be counted in which applicant is the first author and the publication-year commensurate with the registration tenure of PhD scholar in the institute.

Application for fellowship extension beyond 03 years may be considered by Chairman Senate if it is duly recommended by both DRPC and Dean (AA). Such extension shall be in-parts on half-yearly (*06 months*) basis for maximum duration of 5 years **OR** till the date of thesis submission, whichever falls earlier.

### 1.2.2 Leave Entitlement

Ph.D. students shall be governed by following leave rules with continued financial assistance:

- a) **Casual Leave:** 15 days (*Maximum 05 days at a time*) in one academic year (01 July - 30 June) as per Ministry of Education (MoE) order F.No.17-2/2014-TS-I dated 18 Feb.2015 or any subsequent changes from time to time.

- b) **Maternity Leave:** The female PhD-scholar is eligible for maternity leave as per prevailing institute rule/as per Government of India norms.
- c) **Academic leave:** This entitlement of leave is for attending conference/seminar/ symposium/ field work or training program and may be for maximum duration of 15 days per academic year with a maximum of 2 months during the total duration of Ph.D.
- d) **Medical Leave:** PhD scholars having genuine medical issues can be sanctioned medical leave up to maximum of 30 days over the entire duration of PhD and *maximum 10 days in an academic year.*, if applied through proper channel. Under special case of acute medical emergency, the duration of the sanctioned leave may also exceed 10 days in that academic year upon the recommendation of Institute medical officer and subsequent approval by chairman Senate, which may vary on case to case basis.

### 1.2.3 Seminar/Conference Entitlement

PhD scholars are entitled to have financial support from institute for presenting papers in seminars/conferences in online/offline mode. The entitlement shall be maximum upto **Rs.15,000/- (Rupees Fifteen thousand only)** per scholar per **academic year**. The financial entitlement shall cover inland travel by train up to 3<sup>rd</sup> AC, registration fee, and limited boarding and lodging expenses (*maximum up to Rs 3000/-*). Only full-time Ph.D. scholars can be considered eligible for financial support in following categories of conferences:

- a) Conferences approved by the CPDA committee of the Institute.
- b) Conferences conducted at IITs, NITs, IIMs, IISc, and other CFTIs.
- c) Conferences whose papers are published in SCI/SCOPUS indexed Journals/ Web of Science.

In addition to above, research scholar may also apply for availing financial support from any other government agency. Such application to funding agencies shall be forwarded by the institute if same is routed through departmental DRPC with due recommendation. The research Scholar can also avail financial support from sponsored research/consultancy projects of his/her supervisor(s). The recommendation from the supervisor should include the research and consultancy project and mention clearly the type of funding envisaged. In case, fund is not available from R&C projects, the research scholar may then approach Institute for appropriate financial support. Such application shall be duly recommended and forwarded by the concerned HOD to Dean (R&C) or Dean (Academic Affairs) for final approval from chairman Senate.

The institute also promote physical participation of research scholars in international conference abroad. All PhD scholars who publish 02 numbers of SCI/SCIE/SSCI Journal papers during the course of doctoral program shall be eligible for this financial support. The financial entitlement under this category shall be maximum up to Rs. 50,000/- . The support may include conference registration fees, travel, and other incidental expenses.

Furthermore, research scholar is also entitled to avail maximum incentive of Rs.20,000/- for high class publications in SCI (Q1) class of Journal. This one-time incentive can be utilized for attending a conference of repute (*whose papers are published in SCOPUS Journals or approved list of conferences*). The incentive covers conference registration fees, travel and other incidental expenses.

#### **1.2.4 Code of Conduct and Discipline Obligation**

To uphold the Institute's image and reputation, there is an obligation on the part of PhD scholars to maintain discipline on-campus and exhibit decorum during public proceedings. The following minimum standards are expected from each PhD scholar, whether individually or in the group:

- a) Due respect to faculty, wardens, staff, and their family members.
- b) Good rapport and friendly relationship with fellow students.
- c) Affectionate Behavior with new students.
- d) Adherence to direction from UGC and Hon'ble Supreme Court decisions on ragging.

**In addition, the PhD Scholar shall observe the following:**

- a) Must refrain from heinous act of ragging, which in any form (physical or mental harassment to junior students individually or in group) is banned by law and calls for strict disciplinary actions including expulsion from the Institute and police action.
- b) Must conform to industrial discipline and follow factory rules regarding attendance, holiday, timings & code if any kind of industrial measurement/experimental observation is being undertaken OR undergoing some field training in industry etc.
- c) Must refrain from any damage/misplace of apparatus, tools, instruments, material, books issued to them by the department/institute during field observation/training in industry else shall individually bear cost of any such damage.
- d) Must observe all safety precautions in laboratory, workshop, hostel, playground or in any of the institute premises. Institute cannot be held responsible if mishap/causality takes place due to non-observance of safety instructions/precautions.
- e) Must attend minimum 75% of lecture-classes/tutorials/practical-classes during

coursework in each subject order to qualify for writing End Term Examination.

- f) Must submit an advance application to avail any entitled leave. The application must be countersigned/recommended by their parents or their tutor guardians or Hostel Warden or supervisor at least two days prior to the intended leave date except in case of emergency.

### **1.2.5 Misconduct and Indiscipline**

Indiscipline in any form is intolerable and all PhD scholars must refrain from any act of misconduct or indiscipline. Following actions may be considered an act of misconduct and indiscipline.

- (i) Disregard of orders and instructions of the institute authority.
- (ii) Noisy, boisterous, disorderly, and obnoxious behavior.
- (iii) Irregular attendance and unauthorized absence from classes and hostels.
- (iv) Lack of punctuality in attendance, nonpayment of institute dues, or in all other matters where dates and time for any event, functioning or obligation are prescribed.
- (v) Persistent neglect of studies including mass absenteeism and inciting the mass absenteeism.
- (vi) Recourse to unfair means in test and examination.
- (vii) Negligence, use of false, fraudulent statement or acts.
- (viii) Taking part in strikes.
- (ix) Failure to produce identity card on demand by member of staff, warden, prefect etc.
- (x) Non-sportsman behavior during indoor/outdoor games.
- (xi) Indecent, rude and untoward behavior within or outside the campus.
- (xii) Sabotage to Institute image & reputation.
- (xiii) Sabotage to institute infrastructure, Lab equipment's, hostel assets, or damage to belongings of fellow students.
- (xiv) Possession, consumption or distribution of narcotic products and alcoholic drinks or harmful drugs, smoking etc.
- (xv) Possession of firearms or lethal weapons in the institute premises/hostels, examination hall etc.
- (xvi) Organizing or participation in any group activity except purely academic and scientific Programs, in company with others in or outside the campus without prior permission of the appropriate authority.
- (xvii) Indulgence in any kind of political activity including displaying posters or placards of political parties within the institute premises.

- (xviii) Addressing the press without permission.
- (xix) Forming society/ association/ organization without prior permission of appropriate authority.
- (xx) Inviting any outsider to conduct a meeting without permission of the appropriate authority.
- (xxi) Involvement in agitation of any kind which may lead to breach of peace.
- (xxii) Interference with the institute administration.
- (xxiii) Damaging fauna and flora in the campus.
- (xxiv) Indulging in any other acts which the authority feels as breach of discipline.

### **1.2.6 Punishment**

A Research Scholar indulging in gross act of misconduct/indiscipline is liable to suffer one or more of the punishments such as:

- a) A letter of Warning may be issued in case of first-time negligence of the applicable conduct rules. Repetition or continued disobey of institutes' conduct rules may call for further serious action beyond warning. The entailed punishment might include financial penalty or Fine to the extent of Curtailment/Cancellation of Fellowship. Further escalation of misconduct might eventually lead to cancellation of registration.
- b) In case of damages caused to the institute property or property of other stakeholders by the delinquent scholar, the entailed punishment may include (i) financial recovery of damaged property/instrument/machines fully or in-parts, (ii) Suspension from availing institutes amenities/services, (iii) withholding of character certificate
- c) All gross act of misconduct/indiscipline shall call for Procter hearing and if established by evidence will lead to Removal, rustication or expulsion from the institute or hostel.
- d) Ragging of juniors will invariably lead to expulsion from the institute.

### **1.2.7 Plagiarism**

The thesis report is an authentic testimony of research scholar's endeavors. The content within it must therefore adhere to originality standards, with a threshold of no more than 12% for plagiarized material. Plagiarism is to be checked by the institutes' prescribed software to ensure compliance with plagiarism regulations. It is mandatory to enclose duly signed plagiarism report/certificate (*by scholar, supervisor & chairman DRPC*) along with other certificates at the time of draft-thesis submission

## 1.3 COURSE STRUCTURE

It is mandatory for PhD scholars to earn prescribed credits for completing the coursework within the designated program duration. The course structure outlines all specific rules for getting credit requirements fulfilled within designated duration; the skeleton & details thereof are narrated in following subsections.

### 1.3.1 Program Duration

For all full-time PhD scholars, the minimum duration for submitting PhD thesis will be 03 years with fellowship, which may be extended up to maximum of 05 years upon recommendation of DRPC. Subsequent extension would be on six-month basis upon DRPC recommendation of the concerned department and subsequent approval by chairman Senate. The candidate will have to register continuously without break for all extended duration of six months by way of submitting due charges/fees and completing the applicable registration process e (applicable for both full time and part time PhD program).

a)

In addition, there will be minimum 02-years residential requirement for all full-time research scholars. After completing residential requirement of 02 years, if a research scholar wishes to continue PhD as Part-time scholar, he/she may do so if minimum 02 SRPC seminar & RDC have been completed within the residential period. For scholars admitted under **PT-Sponsored** category, the minimum residential requirement shall be 06 months or until course work is completed. These scholars shall however be permitted to carry on their research during evening hours, weekends & holidays in MANIT after fulfilling minimum residential requirement with mandatory Course work completed.

*The minimum permissible duration for Part-time Ph. D. program is 04 year, which under normal circumstances exceeds by one-year from the corresponding Full-time Ph.D. Program. However, there is no prescribed maximum time-limit of for thesis submission of both FT/PT programs, as earlier limit of 07 years in 2016 ordinance is now waived off. However, it has now become mandatory for the research scholar to register in each semester of extended duration without break.*

### 1.3.2 Course Credit Requirements

It is mandatory for PhD scholars to earn prescribed credits for completing the coursework within the designated program duration. The distribution of credits for PhD program shall be as per *Table-II* below:

**Table II:** Credit requirements

Semester I/II	Credits		
	MCA/M.Sc/MBA/ <b>M.A.</b>	M.Phil/M.Tech./M.Arch/ M.Plan	B.E./B.Tech./ B.Arch.
Minimum credit for the Course work	<b>15</b> (5 courses)	12 (4 courses)	24 (8 courses)
2 Seminars	4	4	4
Total Credits	19	16	28

The minimum CGPA to clear the course work will be 6.5. The grading pattern of coursework will be the same as per prevailing scheme of PG programs/NPTEL. The credit requirements for completion of course work is same for both FT and PT admissions, however PT scholars may complete the coursework within the span of 02 years.

Following are established norms of the course work to be taken by part time Ph. D. candidates admitted in July – 2024.

1. Candidates may opt NPTEL/SWAYAM courses to complete their course work.
2. Candidates may attend the part time classes in the evening (6.00pm onwards) as scheduled by concerned Department.

Candidates may attend the full-time classes with regular classes provided who has their parent Organizations permission for 180 days leaves.

The Part-time PhD scholars may opt any courses from ongoing Full-time and Part-time PG programs after due recommendation from supervisor and subsequent approval by DRPC. However, if the recommended course is not being offered in the current-running semester or not a part of existing PG scheme, then such courses may be availed as NPTEL course, if available. For registration in NPTEL courses, prior approval from Chairman DRPC and Dean (Academic) is required. Once coursework is completed, the supervisor of the candidate shall convene SRPC meeting to assess the research progress of the scholar, with minimum frequency of once in each semester. The SRPC of PT scholars shall bear same form and function as it is applicable for FT scholars.

Moreover, Part-time Ph.D. scholars are required to remain in regular touch with their supervisor(s) throughout the program duration. They are also expected to attend the institute for a duration of at least two weeks either at a stretch or in-parts in every semester to complete all stipulated program requirements, including but not limited to research discussions, the SRPC meetings, RDC meeting, Seminars, etc.

### 1.3.3 Failure in Courses

The candidate should complete the course work in a maximum of 02 semesters (*one year*). Student failing in course work may rewrite/reappear in the exam only once after due permission from Dean (AA) & Chairman Senate.

### 1.3.4 Failure in Seminar

If a student does not submit the seminar report and remain absent in the Seminar on the scheduled date, he will be awarded ‘F’ grade unless the extension of date is granted by the chairman senate.

## 1.4 RESEARCH SUPERVISION

Each PhD scholar enrolled in the designated program will be allocated a supervisor, who is a faculty member of the relevant degree-imparting or supporting department or center.

### 1.4.1 Main Supervisor/Co-supervisor

A Main supervisor is a faculty member of the department/Centre who mentors, advises, and deals in all Ph.D. related matters of a research scholar. He/she performs lead role in monitoring/mentoring the progress of research work on the chosen topic and provides technical guidance while Co-supervisor plays supportive role with identical responsibility of monitoring/mentoring. Every student admitted to Ph.D. program shall be assigned a Main Supervisor while Co-supervisor is optional.

A PhD supervisor is always from the parent department where the PhD student is registered. In case, a student is registered in the center or intend to work in inter-disciplinary area, the Co-supervisor may be drawn from any other department/center in the institute.

### 1.4.2 Eligibility and Allotment of Main Supervisor

A regular faculty of MANIT, Bhopal possessing Ph.D. degree and having at least two SCI / SCIE / Scopus Journal papers to his/her credit is eligible to become Research Supervisor. If a faculty is nearing superannuation, he must have at least 03 years of service left at the Institute to act as supervisor.

At any given point of time, one supervisor can guide maximum of 04 institute supported and 05 part-time research scholars (*including Institute and outside MANIT*). A supervisor should plan to take institute-supported PhD scholars in a phased manner, not exceeding one scholar in any given academic year. However, Chairman Senate can allot an additional scholar to a faculty by superseding the prescribed limit of 04 candidates considering his/her extraordinary contribution to the academic growth of the institute. Also, as an incentive, the faculty having externally funded research project of Rs 50 Lakh (*Rupees Fifty Lakhs*) or more may be allotted one additional institute supported PhD scholar. This additional scholar, one per project, shall be allotted after the receipt

of project-grant and would be over and above the stipulated limit of 04 institute supported candidates.

A faculty having maximum prescribed numbers of PhD scholars already working under him, will not be allotted candidate anymore, even if any new admission is keen to work under him. The department wise allotment process begins by making the details of prospective supervisor(s) and his/her area of expertise notified on the Institute website at least 3-4 weeks prior to the start of selection process. The Chairman DRPC shall also furnish the information about the numbers of slots/vacancy available under him. The prospective candidate can interact with the respective faculty in his area of interest and thereafter indicate his choice of supervisors in the order of preferences. All selected candidates will be allotted a supervisor based on the mutual interest of both the candidate and the supervisor.

Candidates seeking admission under sponsored category (*FT- Sponsored*) may be allowed to take maximum of one co-supervisor from the sponsoring organization, where he is currently employed.

As an Institute policy, no candidate can avail guidance from more than 03 professionals, one of them will act as main supervisor, who is essentially a faculty of the Institute. Rest two professionals may either belong to MANIT or may be from any other research organization (*only one from sponsoring organization*) or industry provided they meet applicable eligibility criterion of being co-supervisor.

Allotment of a Research Supervisor for a Part-time Ph.D. Program shall also be governed by the same set of rules and norms as applicable to Full-time PhD programs except/otherwise notified specially.

#### 1.4.3 Eligibility and Allotment of Co- Supervisor

All eligible MANIT faculty with doctoral degree can act as co-supervisor upon the candidate's request and the recommendation of main supervisor. The request should come within 01 year of candidate's registration and under very exceptional or special cases (*if the topic is interdisciplinary and the requested co-supervisor is from other department*) within 02 years or before RDC seminar, whichever falls earlier. The valid request of adding co-supervisor can be forwarded by DRPC to Dean(AA) for approval to chairman Senate if the requested-faculty has the vacancy available under him/her. In addition, a faculty with doctoral degree from national level reputed Institutes (NITs, IITs, IISc, IIM, NID) may also act as co-supervisor.

Working Professional(s) from national level research organization/Research laboratories/industry can also act as co-supervisor if he/she:

- (i) Possesses PhD degree in the respective discipline,

**OR**

possesses UG/PG degree in the respective discipline with more than 10 years of research experience AND minimum of 05 SCI research papers in the international journal of repute OR 03 SCI research papers plus a granted patent.

- (ii) Must have at least 03 years of service left before superannuation, and
- (iii) Must belong to area in which research scholar is working,

For external faculty or working professional to act as co-supervisor will have to register in the institute by submitting his/her biodata. The Departmental Research Program Committee (DRPC) shall scrutinize the biodata and Chairman DRPC will forward the same to Dean (AA) with recommendation. Dean (AA) will put it up to Chairman Senate for approval, who at his discretion may either approve it or defer it to full senate in the event of ambiguity that demands discussion. The office of the Dean (AA) will issue an appointment letter if approved by the Chairman Senate.

Allotment of a co-supervisor for a Part-time Ph.D. Program shall also be governed by the same set of rules and norms as applicable to Full-time PhD programs except/otherwise notified specially.

#### **1.4.4 Change of Main/Co-Supervisor**

Change of Supervisor under exceptional circumstances shall be permitted as follows:

- a) In the event, the allotted supervisor leaves the Institute permanently, a new supervisor from the research group shall be appointed by the Chairman DRPC after seeking consent of the research scholar. The outgoing supervisor can still continue to act as co-supervisor, in case he/she joins another Institution of National Importance, OR an Institute having NIRF ranking under 100, OR National Research Laboratory, OR superannuated as MANIT faculty.
- b) If the supervisor proceeds on deputation/lien/study leave/sabbatical leave/Child Care leave/any other leave for a period exceeding 06 months, he/she would no longer be able to act as main supervisor.
  - (i) If the co-supervisor is already *available*, he/she shall be elevated to become supervisor and the supervisor proceeding on leave may continue to guide the scholar as co-supervisor.
  - (ii) In case, the faculty proceeding on-leave is the only supervisor of the candidate, a new Supervisor in consultation with the candidate and the ousting supervisor shall be added upon due recommendation from chairman DRPC and subsequent approval from chairman Senate. The new supervisor may either be drawn from the existing SRPC of the candidate or from the same

research group with slots available under him. The supervisor proceeding on leave may still continue to act as co-supervisor if the newly appointed supervisor and the Chairman DRPC are in agreement.

- c) In the event the supervisor passes away, the co-supervisor (*if available*) will act as main supervisor. If the Late faculty is the only supervisor to the candidate, the Chairman DRPC will appoint a new supervisor from the research group.
- d) A faculty can only be proposed for inclusion as co-supervisor by the scholar within one year of PhD registration. However, an eminent faculty from other institutes such as IITs/NITs/IISc/IIM **OR** working professionals from national level research organization/Research-Labs/Industry may be proposed for inclusion as Co-supervisor before the conduction of RDC meeting. Afterwards, no such addition shall be allowed.
- e) A faculty who is retired from the institute may continue to guide a scholar as main-supervisor provided the student submits the thesis within 06 months of his/her superannuation. Chairman DRPC shall appoint a new supervisor from the research group in case the submission is not done within 06 months.
- f) If any faculty is on deputation/lien/study-leave/sabbatical-leave/child-care-leave at the time of admission of new PhD-batch and the candidate has opted that faculty as his/her choice of supervisor, under such cases the faculty member on-leave is not permitted to supervise the candidate.

In every case of change of supervisor, the Chairman DRPC has to check the eligibility and availability of the new supervisor. If the Research plan or area of the work requires modification due to the change of supervisor or for any other reason, such changes should be allowed by SRPC unless they do not lead to any conflict of interest among supervisor, co-supervisor and research scholar.

Moreover, the MANIT-faculty can also guide PhD candidates of other institutes/universities if the NIRF ranking of such institutes/universities falls within 100. However, guidance of such candidates shall also be counted within the stipulated limit of maximum 06 candidates.

All these norms of change of main-supervisor/co-supervisor are equally applicable for all categories of Part-time Ph.D. Programs.

## 1.5 THESIS EVALUATION

All the norms of thesis evaluation are equally applicable to FT and PT research scholars unless it is separately notified. The research conducted by PhD scholar is presented/submitted in the form of a spiral-bound report/manuscript, which is forwarded to two external experts in the subject-area for valuation and comments. After receiving approval from the experts, the submitted manuscript undergoes revision to address all suggested corrections and comments. The manuscript after incorporating all corrections and inclusion of facts & figures as suggested by reviewers is then formally submitted as hard-bound **thesis**. The thesis is a testimony of scholar's original research, which after successful defense (*leading to award of Doctoral degree*), is archived for all future references. The entire process of thesis submission, evaluation & award of doctoral degree commences with a pre-submission seminar and concludes with an open defense viva-voce examination. The procedural guidelines, implied rules, applicable regulations are logically detailed in following sub-sections.

### 1.5.1 Pre-Submission Evaluation/Seminar

Regular meetings of the SRPC (*Student Research Progress Committee*) assess research scholar's progress on semi-annual (six monthly) basis, while pre-thesis seminar is the last & final SRPC meeting which discusses and approves attainment of all research objectives set forth for the doctoral research conducted by PhD scholar. If a scholar has done sufficient work with conclusive outcomes that comply research objectives, he may request SRPC committee via supervisor to convene pre-thesis seminar. If supervisor is also satisfied with research outcomes and mandatory publications requirements i.e. minimum 02 numbers of Research Papers in SCI/SCIE/SSCI Journals OR minimum 04 numbers of Scopus indexed journals publications, he would arrange for a pre-thesis seminar to be delivered by research scholar. The SRPC committee shall examine the pre-thesis seminar for conclusive outcomes before recommending the research for submission in the form of **draft- synopsis**.

The **draft-synopsis** is a document with abstract of **research proposal, methodology and findings along with a list of publications**. The SRPC evaluates both the **draft-synopsis** and the **pre-thesis seminar** to ensure the completion of all research objectives outlined in the RDC (*Research Degree Committee*) report, which was finalized in the RDC meeting.

Although, the pre-thesis seminar will be an open seminar and may be attended by faculty, research scholars, and PG students of any department, yet the SRPC is the only authorized committee to evaluate the work and submit the recommendation. It would be appreciated, if PhD scholar submit adequate numbers of **draft-synopsis** at least one week before the scheduled pre-thesis seminar for review and comments by SRPC members.

### 1.5.2 Synopsis Submission

After successful defense of ***pre-thesis seminar***, the PhD scholar is required to finalize the draft-synopsis after resolving/incorporating the comments/suggestions made by SRPC. The **Final-synopsis** or simply **Synopsis** is a brief document that summarizes **research proposal, methodology and findings with a list of publications**. The synopsis enables appointed examiners (*referees*) to agree/decline evaluation of final thesis upon preliminary examination of research findings contained therein.

Upon approval by SRPC committee, the research scholar will have to submit 05 numbers of **Final-Synopsis** in hard-copies *along with the soft copy* within one month from the date of pre-thesis seminar. The requisite numbers of synopsis shall be submitted to chairman DRPC with following certificates:

- a) Recommendation of SRPC,
- b) Certificate from the supervisor that candidate has completed coursework with minimum credit requirements.
- c) Certificate from the Research Supervisor stating:
  - i. That there is a *prima facie* case for consideration of the thesis,
  - ii. That the thesis does not contain any work which has been previously submitted for the award or any degree, and
  - iii. The extent of collaboration, if any.

### 1.5.3 Panel of External Examiners

The panel of proposed examiners for thesis evaluation should be submitted by the concerned supervisor along with the final synopsis. It is imperative that the examiner's names are drawn from the cited references in the synopsis/thesis. The panel of examiners is submitted in a prescribed format, duly signed by the supervisor and the chairman of the Doctoral Research Program Committee (DRPC), enclosed in a confidential sealed envelope addressed to the Assistant Registrar (Admissions). The panel of examiners comprises of two separate clusters. In one cluster, the 05 examiners/referees are drawn from IIT/IISc, while in the second cluster another 05 examiners/referees should be drawn from other national-level institutions such as NIT/CFTI or equivalent research organizations in India. The panel of examiners along with 05 copies of the final synopsis are to be submitted to the office of the AR(admission) to initiate the final evaluation process.

The Assistant Registrar (Admissions) will retain 01 copy of the synopsis for record, while the remaining 04 copies and the panel of examiners will be forwarded to the office of the Professor-In-Charge of Examinations (PIC) for further processing and subsequent submission to the Dean (AA). The Dean (AA) will now get two referees nominated/approved from the Chairman Senate,

one from the cluster of IITs, and second from the cluster of NIT/CFTI/research organizations. The names of the approved referees will be communicated to the office of the Professor-In-Charge of Examinations (PIC), who will then send a copy of the synopsis to both referees (examiners), requesting their consent to evaluate the Ph.D. thesis after a preliminary review of the attached synopsis.

If, for any reason(s), an approved examiner declines to evaluate the thesis, the PIC will contact other examiners from the panel after getting requisite approval from the Chairman Senate. If no examiners from the panel agree to evaluate the thesis, the supervisor will need to submit a fresh panel of examiners.

#### 1.5.4 Thesis Writing Format

The thesis is a comprehensive document of the original research conducted by the PhD scholar. It substantiates the research findings in a structured format, adhering to the guidelines outlined below for sequential arrangement and inclusive content. Thesis should be written in English with meaningful facts, figures, and grammatically correct statements. The thesis-writing structure is given in **Table III**. In addition, thesis-writing style with the approved fonts/format is given in **Appendix-I**. It is mandatory for all FT and PT scholars to strictly adhere to prescribed structure and style in thesis-writing and same is to be ensured by the concerned supervisors.

**Table III:** Thesis Structure

S.No.	Item	Purpose
(i)	<b>Title Page</b>	<i>Title of the thesis, author's name, degree for which it is submitted, department, institution, Month-Year</i>
(ii)	<b>Abstract</b>	<i>Concise summary of the thesis, usually around 200-300 words, highlighting the research problem, methods, results, conclusions and Outline of thesis</i>
(iii)	<b>Acknowledgements</b>	<i>author expresses gratitude to those who contributed to the completion of the thesis, such as supervisors, funding agencies, colleagues, family, etc</i>
(iv)	<b>Candidates Declaration</b>	<i>Containing statements of scholar's own research work</i>
(v)	<b>Table of Content</b>	<i>Lists all major sections and subsections with corresponding page numbers</i>
(vi)	<b>List of Figures and Tables</b>	<i>provides a list of all figures and tables included in the thesis, along with their respective page numbers</i>
(vii)	<b>List of abbreviations</b>	<i>Alphabetically arranged list of abbreviations used in the thesis.</i>
(viii)	<b>Chapters</b>	<b>Introduction:</b> <i>Introduces the research topic, provides background information, states the research problem or questions, outlines Research</i>

		<p><i>objectives, Methodology and gives an overview of the thesis structure.</i></p> <p><b>Literature Review:</b>  <i>Surveys relevant literature on the research topic, critically evaluates existing studies, identifies gaps in knowledge, and establishes the theoretical framework for the research.</i></p> <p><b>Work Chapters:</b> Consisting of</p> <ul style="list-style-type: none"> <li>✓ <i>Theoretical framework,</i></li> <li>✓ <i>Empirical findings,</i></li> <li>✓ <i>Modelling &amp; Simulation,</i></li> <li>✓ <i>Experimental studies,</i></li> <li>✓ <i>Data analysis,</i></li> <li>✓ <i>Novelty in design, methods and data collection techniques,</i></li> <li>✓ <i>Novelty in instruments or tools used for data analysis.</i></li> <li>✓ <i>Results and discussion.</i></li> </ul> <p><i>Each chapter should conclude with chapter summary.</i></p> <p><b>Conclusion and Future scope of work:</b>  Qualitative and quantitative summary of completed research with its main findings, significance and scope of future work</p>
(ix)	<b>References</b>	<i>Lists all sources cited in the thesis, following a IEEE citation style for thesis in Engineering &amp; Science stream</i>
(x)	<b>Appendix</b>	<i>Includes supplementary material that is relevant to the thesis but not essential for understanding the main text. It may contain raw data, questionnaires, or additional analysis.</i>
(xi)	<b>List of Publications</b>	List of scholar's own publications in IEEE citation style.

### 1.5.5 Thesis Submission Requirement/ Rules

The research scholar compiles the theoretical framework, empirical findings, and data of their completed research in the form of a thesis. This document must be prepared and submitted to the office of the Dean (AA) within 06 months from the date of the pre-thesis seminar. The thesis submission process adheres to specific criteria, requires certification from relevant authorities, and involves completing prescribed forms, as outlined below.

- a) Certificate from the supervisor and coordinator DRPC for successful completion of prescribed course work, comprehensive examination, SRPC meetings, and RDC seminar by the research scholar within the prescribed time limit.
- b) Certificate from the Research Supervisor stating:
  - (i) That there is a *prima facie* case for consideration of the thesis,
  - (ii) That the thesis does not contain any work which has been previously submitted for the award or any degree, and
  - (iii) The extent of collaboration if any

- (iv) Submission of Plagiarism report using institute's prescribed software. The permissible plagiarism is 12% from all sources excluding scholar's own publication.
- (v) Certificate from the research scholars and the supervisors that thesis report is prepared following the prescribed styles of formatting/fonts and the structure in Table III/
- c) Certificate from the Accounts section that there are no dues up to the date of submission of the synopsis.
- d) The candidate shall submit 04 copies of spiral bound thesis printed on both sides of the paper to the Dean (Academic) within the prescribed time limits, i.e., not earlier than one month and later than six months from the submission of the synopsis. The thesis shall be written in the approved format and fonts for all certificates, TOC, chapter title, chapter body, conclusion, appendix and references.
- e) If for some genuine reasons, a scholar couldn't submit the thesis even after the elapse of six months after submission of seminar, he/she may apply for extension only once for the period at the discretion of Chairman, Senate. However, this should not violate the minimum duration clause.
- f) Along with the thesis, the candidate shall submit the requisite forms containing the authorization from the Research Supervisor(s) for submission of the thesis and a certificate from accounts section that there are no dues against the candidate.

#### 1.5.6 Thesis Evaluation & Detailed Report

The thesis received in the office of the Professor-In-Charge of Examinations (PIC) will be sent to both examiners who have previously agreed to evaluate the research based on the synopsis. The examiners are expected to submit their reports within 8 weeks of receiving the thesis, using the Performa provided by the office of Professor In-charge Examinations.

The report submitted by both the examiners must have any one of the following structured recommendations:

- A.** *I recommend that the thesis be accepted in its present form.*
- B.** *I recommend the thesis to be accepted, however the candidate has to clarify my queries at the time of Viva Voce examination.*
- C.** *I recommend that the candidate modifies the thesis as per my Suggestions and the modified thesis should be sent to me for re-evaluation.*

- D.** *I recommend that the candidate modifies the thesis as per my suggestions and the modified thesis should not be sent to me for re-evaluation.*
- E.** *I do not recommend acceptance of this thesis for the reasons set out in detail in my report.*

In addition to the structured recommendations mentioned above, the examiners are required to submit a detailed report (250-400 words) outlining the research contributions chapter by chapter. The Professor-In-Charge of Examinations (PIC) will supply the formats for both the thesis recommendation and the detailed report.

If the referees suggest accepting the thesis with minor modifications, the scholar can resubmit the thesis once after making the necessary changes, within a six-month period. The same referee(s) will review the modified thesis upon resubmission.

If one examiner accepts the work while the other rejects it, the thesis will be referred to a third referee from the panel of examiners, approved by the Chairman Senate.

A thesis rejected by both referees may be resubmitted after undergoing comprehensive revision, which would include the incorporation of new results. The thesis may be resubmitted, within a period not earlier than 01 year and not later than 02 years from the date of intimation of thesis rejection by the office of Professor-In-Charge of Examination (PIC). The resubmitted thesis, incorporating thorough revisions and new results, may be sent to the same set of examiners or to a new set of examiners at the discretion of the Chairman Senate. However, if the resubmitted thesis is rejected again, the candidate will be disqualified, and his registration will be permanently cancelled.

The defense/viva-voce examination can only be held if both referees give positive recommendations. Confidential copies of the referees' reports will be shared with the Research Supervisor(s), and any queries or revisions requested by the examiners will be communicated to the scholar. The scholar needs to address all corrections point wise and prepare responses to the queries systematically. The revised thesis and the scholar's responses will then be submitted to the Doctoral Research Program Committee (DRPC) for review. The chairman of the DRPC will forward the committee's recommendation to the Professor-In-Charge Examinations (PIC) to schedule the defense viva-voce examination at a mutually convenient date to all examiners.

At the time of defense, the supervisor must ensure that the research scholar will submit 02 copies of the thesis printed on both sides in hard bound form to the office of Professor In-charge Examinations.

### 1.5.7 Examination Board Constitution

With positive recommendation from both the examiners, the research scholar shall have to defend his work in an open viva-voce examination conducted by a Board of Examiners. The Board of Examiners shall be appointed by the Chairman Senate and shall consist of:

- (i) HOD of the Department/Center as chairman
- (ii) One Senate nominee appointed by chairman Senate
- (iii) One of the referees who evaluated the thesis,
- (iv) Research Supervisor(s), and
- (v) SRPC members

### 1.5.8 Award of Doctoral Degree

The research scholar is required to present and defend his research work before the Examination Board (EB). Upon completion of the viva-voce examination, the EB will submit a duly signed evaluation report in the prescribed format, along with a categorical recommendation regarding the successful defense or otherwise, to the office of the Professor-In-Charge of Examinations (PIC).

If the board's (EB) recommendation is positive, the Professor In-charge Examinations with due approval of Chairman Senate will issue a notification regarding successful completion of all formalities by the research scholar on the date of defense. The notification mentions thesis title and make him eligible for provisional degree of Ph.D. from the date of viva-voce examination. The doctoral degree will be conferred upon the candidate in the upcoming convocation following senate approval.

In the event that a thesis has been accepted but the candidate is unable to defend his work before the viva-voce board (EB), the Chairman of the Senate may permit the candidate to reappear for the viva-voce examination at some later date determined by the chairman (DRPC) and the concerned supervisor. However, if the research scholar fails to defend his work again, he will be declared unsuccessful, and his candidacy for the doctoral degree will be summarily revoked.

### 1.5.9 Legal Matters

Any legal issue arising out of the process will be dealt with within the jurisdiction of court at Bhopal.

## 1.6 MONITORING AND ADMINISTRATIVE COMMITTEES

In order to support PhD-scholars, various oversight (*monitoring*) and administrative committees are formed. These committees are designed to mentor, guide, and offer administrative assistance to scholars at both departmental and institute levels so that he may advance his work in the chosen areas of research at utmost ease. Committees such as Seminars, Student Research Program Committees (SRPC), and Research Degree Committees (RDC) are established to monitor the scholars' progress and assist them in directing research with well-defined objectives and methodology (RDC). Departmental-level administrative support is provided by the Departmental Research Program Committee (DRPC), while institute-level support is offered by the Senate Doctoral Program Committee (SDPC). The composition and functions of each committee, along with their respective forms, are detailed below.

### 1.6.1 Key Research and Administrative Committees

**Table IV** outlines various committees that a research scholars will interact during course of his doctoral degree program. The purpose and objectives of each committee with operational timeline is provided in the table below.

**Table IV: Monitoring and Administrative Committees with their purpose**

Committee	Meetings on Timeline	Event	Purpose
<b>Seminar</b>	<i>During Coursework</i>	(i) Coursework Seminar -I, (ii) Coursework Seminar -II,	To Evaluate state of art seminar
<b>SRPC</b>	<i>Every six month after Registration</i>	(i) Six monthly SRPC seminar	To monitor research progress
	<i>Just after the completion of research work.</i>	(ii) Pre-thesis Seminar	To Evaluate quality and quantity of completed research work

<b>RDC</b>	Within 02 years of admission	(i) RDC Examination	To contemplate and fix research-plan, research-objectives, research-topic and research-Methodology
<b>(DRPC)</b>	As and when required throughout the program duration	(i) Fellowship enhancement, (ii) Resolving Grievances, (iii) Supervisor allocation etc.	for admin support to all PhD scholars at Departmental level
<b>Senate Doctoral Program Committee (SDPC)</b>	Throughout the program duration	(i) Fellowship enhancement, (ii) Resolving Grievances,	For admin support to all PhD scholars at Institute level

### 1.6.2 DRPC: Form & Functions

DRPC looks after all administrative approvals of PhD scholars at department level. It also looks after conduct of PhD scholars and initiate redressal of any grievance arising between scholars or between scholar and his supervisors. The Constitution of DRPC is given in Table-V.

**Table V: Constitution of DRPC**

1	Chairman	HOD of concerned department
2	Members	3 to 6 faculty members nominated by concerned HOD.
3	Coordinator	A member of DRPC nominated by concerned HOD.
4	Invitee Member(s)	Concerned Supervisor (s)

### Functions of DRPC

- a) Evaluation of external Supervisors bio-data and forward them to Dean(AA) & Chairman Senate for due approval.
- b) To approve the external research centers for carrying out research work in a given discipline.
- c) Any other advice/ grievance/ recommendations desired by Dean (AA) from time to time.

### 1.6.3 SRPC: Form & Functions

The SRPC is intended to monitor research progress of an individual PhD scholar. It mentors, guides, and evaluates the research progress by conducting SRPC seminars biannually i.e., one in every semester and exclusive to a PhD scholar. The six-monthly evaluation through SRPC seminar is a mandatory requirement for desk registration of an individual scholar in each semester. The Constitution of SRPC is given in Table-VI.

**Table VI: Constitution of SRPC**

1	Chairman	HOD of concerned department
2	Internal Member*	Two faculty representatives from the parent department, one should be minimum at the level of Associate Professor from the same area of specialization.
3	External Members*	One faculty representative from other department minimum at the Associate Professor level
4	Convener	Supervisor (s)

The constitution of SRPC is initiated by scholar's supervisor by proposing a panel of 04 internal experts from the parent department and the 02 external experts from other departments. From the proposed panel, the Dean (AA) will select two internal members and one external member to form SRPC of designated PhD scholar. Internal SRPC member should ideally be drawn from same specialized area in which the PhD scholar has submitted his research proposal (*contingent upon the availability of experts in that field*). The SRPC is headed by the HOD/HOC of the concerned department/centre as chairman while supervisor is a convener member. The committee is responsible for overseeing the research progress of the PhD scholar throughout his tenure at the institute.

If any SRPC member is on leave for a duration of fewer than six months and an SRPC meeting is pending, the supervisor(s) may request approval from the Dean (AA) to appoint an alternate faculty member from the same specialized area as a temporary SRPC member for that particular meeting. The Dean (AA) may grant temporary approval in cases of urgency, such as when the SRPC meeting for that student is delayed due to the non-availability of the nominated member. If an SRPC member is on leave for more than six months or if a member has retired, the concerned supervisor must initiate the process to appoint a new SRPC member by proposing two experts for replacement, according to the

internal or external category. The Dean (Academic Affairs) will then approve such a change request.

### Functions of SRPC

- a) To monitor the progress of the research work of the candidate.
- b) Evaluation of the progress of the research work on six-monthly basis with defined research objectives & methodology as per RDC recommendations. The evaluation report should reflect performance of the candidate by quantifying the satisfactory in four levels as 1S, 2S, 3S, and 4S, where 1S and 4S signify minimum and maximum level of progress respectively.
- c) Conduct of pre-thesis seminar after confirming the quality and quantum of the work and publications.
- d) Review and approve draft-synopsis of the candidate.
- e) To verify the mandatory publications requirement for thesis submission.

#### 1.6.4 RDC: Form & Functions

It is a committee formed to assist research scholar in formulating well defined research-objectives, devising a comprehensive research plan, and outlining a methodology for the identified research gap based on comprehensive literature review. It also assists him in crafting/fixing concise and clear ***thesis title***, which is fixed initially in RDC seminar with slight deviation allowed at the time of pre-thesis submission, if approved by the concerned SRPC. The Constitution of DRPC is given in Table-VII.

**Table VII: Constitution of RDC**

1	Chairman	HOD of concerned department
2	External Member:	One Professor/ Associate Professor as expert from the area of research proposal from IIT/NIT/IISc/CFTI
3	Members	SRPC members
4	Convener	Concerned Supervisor (s)

The supervisor of PhD scholar will propose a panel of 03 external experts from the area of specialization in which research scholar submits his research proposal. Chairman Senate will approve one expert from the proposed panel. In principle, the RDC committee is an extended version of SRPC with inclusion of one external expert with the

supervisor serving as the convener. Necessary arrangements for scheduling RDC meeting during the scholar's second year (*i.e after completing coursework, but no later than the close of second year*) shall be made by supervisor as convener.

The RDC meeting freezes research objectives and the thesis title, which typically remains unchanged under normal circumstances. Minor adjustment(s)/fine tuning in the thesis-title and the research-objectives are allowed if SRPC deems fit and necessary at the time of pre-thesis seminar, if such changes do not alter the essence of the research in the proposed area. Completion of RDC shall be an essential condition for enhancement of fellowship after 02 years. Such enhancement after eligibility shall be applicable from the date of RDC, if it gets delayed.

### Functions of RDC

- a) The qualitative evaluation of the identified research gap and problem formulation.
- b) To finalize the research proposal, title of the research/thesis with well-defined research objectives.
- c) To finalize methodology and research plan with timeline.

### 1.6.5 EB: Form & Functions

If the thesis submitted by the scholar receives positive recommendation from both the examiners, the research scholar is required to present and defend his work in an open viva-voce examination administered by a Board of Examiners (EB). The Board of Examiners shall be appointed by the Chairman Senate as per composition in Table-VIII:

**Table VIII: Constitution of RDC**

1.	Chairman	HOD of the Department/Center as chairman
2.	Internal Members	All SRPC members
3.	Internal Member	One Senate nominee appointed by chairman Senate
4.	External Member:	One of the referees who evaluated the thesis
5.	Convener	Concerned Supervisor (s)

### Functions of EB

- a) It conducts an open viva-voce examination where the scholar defends his research before the board members and the audience.

- b) It assesses the candidate's ability to present his research effectively, including his ability to communicate and clarity of expression.
- c) The EB provides constructive feedback to the candidate, highlighting strengths and areas for improvement in his research and presentation.
- d) The board ensures that the examination process adheres to academic standards and regulations set by the Senate.
- e) The chairman and Senate nominee ensures that viva-voce examination is conducted with objectivity and sanctity for award of the doctoral degree.
- f) The EB makes the recommendations for the award of the doctoral degree **OR** revision of the work/thesis **OR** any other recommendation as deemed necessary depending upon the quality and quantum of the defence.
- g) Finally, The EB also rates research scholar's work by awarding grades: "**Exemplary**", "**Excellent**", "**Good**", "**Fairly Good**" for inclusion in the doctoral degree.

### 1.6.6 Senate Doctoral Program Committee (SDPC): Form & Functions

The **SDPC** is an institute level committee which is constituted to facilitate all FT and PT scholars for any administrative support/grievance which otherwise could not be resolved at department level by DRPC. The SDPC shall be appointed by the Chairman Senate as per composition in Table-IX:

**Table IX: Constitution of RDC**

1.	Chairman	Dean (Academic)
2.	Member	Dean (SW)
3.	Member	Dean (FW)
4.	Senate Member-1	Appointed by the Chairman Senate
5.	Senate Member-2	Appointed by the Chairman Senate
6.	Invitee Member:	Concerned HoD
7.	Convener	Associate Dean (PG & PhD)

### Functions of SDPC

- a) To advice/recommend for remedial solutions on issues/unforeseen condition which are neither touched upon nor addressed in PhD ordinance, in force.
- b) To discuss on the PhD related items for their inclusion as Senate agenda and propose viable solution for discussion in full Senate.

c) Plan and execution of Research Scholar Day.

## 1.7 ADMISSION THROUGH MOUs

MANIT; an institute of national importance; is currently working closely with other renowned academic institutes and research organizations for joint-PhD programs. As a matter of policy, the PhD ordinance 2024 approves such collaborations and MoUs.

Senate also upholds and approves the possibility and initiation of exploring joint-PhD program with AIIMS Bhopal. The MoU is intended to sum-up various terms and conditions of PhD admission (*joint admission process, eligibility criteria, application procedures, and selection methods*), course structure including *mode of delivery*, research supervision, thesis evaluation, student support & services, funding, scholarships, legal and regulatory compliances. The norms are being evolved and likely to be put before the Senate for discussion and approval in the next meeting. The joint program is expected to start from Jan. 2025.

Senate also approves MoUs with CPRI Bengaluru and CIPET Bhopal for joint research collaboration, exchange of facilities for conducting research and joint-PhD programs.

## 1.8 CHANGE OF RULES

Ph.D. Ordinance 2024 is revised in view of circular MANIT/Dean(Acad)/2024/1659 dated 26.03.2024, by the designated committee under the chairmanship of Dr. R. K. Nema and successively approved in 57<sup>th</sup> Senate Meeting dated 20.08.2024. .... The approved Senate ordinance is endorsed in **45<sup>th</sup> BOG Meeting dt 19.09.2016**.

Although the rules and regulations mentioned in this ordinance are not variable but, the Senate, as the Supreme academic body of the institute, from time to time, may revise, amend or alter the regulations, courses of study, their credits and syllabus as and when found necessary. In case a rule needs urgent revision for smooth conduction of academic semester, the same can be done by Chairman Senate and will be ratified in the subsequent senate meeting. If there is difference of opinions in understanding/interpretation of any rule/ regulation given here, the decision of the Chairman senate shall be final.

***Annexure A******No Objection Certificate*****Certificate from the employer for Part Time/Executive Ph.D candidates to be issued on Employer's letter head**

1. Name of the Employee : \_\_\_\_\_
2. Type of Organization:  Industry  
 Research Organization Academic  
 Institutions
3. Address of Administrative Officer/HR Manager  


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Phone : \_\_\_\_\_ Fax: \_\_\_\_\_

Email : \_\_\_\_\_

Mob. \_\_\_\_\_

4. Designation of the Employee Seeking admission in MANIT:  


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5. Employment Details : \_\_\_\_\_

a) Total Job Experience on the last date of application submission  
.....  
Years .....  
Month .....

b) First joined on : ..... Date ..... Month ..... Year

c) Holding the present : ..... Date ..... Month ..... Year  
position since (date)

c) Nature of Job (*R & D, Design,  
Production, Marketing,  
Administrative, Teaching*) :

This is to certify that, Mr/Ms. \_\_\_\_\_  
employed as \_\_\_\_\_  
in this organization in regular capacity, is permitted for admission to Part  
Time/Executive Ph.D. Program at MANIT, Bhopal. He / She has been employed  
in this organization for the past \_\_\_\_\_

years in a regular cadre. If selected the organization has no objection to his/her  
undergoing PhD Program under Part Time category at MANIT, Bhopal. He/ She,  
if selected, shall be allowed to attend the classes during daytime during his/ her  
PhD program course work.

Signature of Applicant

Seal & Signature of  
Competent Authority

**Name, Designation**