

# Department of Information Technology

School of Technology  
North-Eastern Hill University, Shillong-793022

## M. Tech. (IT) Entrance Examination -2020

The admission/selection in the M. Tech. (IT) program will be done on the basis of an online written test (please refer to the detailed syllabus). The tentative date, time and schedule of the online test are as follows:

<b>Document upload</b>	Monday, 2 <sup>nd</sup> November, 2020
<b>Date of written Test</b>	Tuesday, 10 <sup>th</sup> November, 2020
<b>Time of written Test</b>	11.30 AM – 12.30 PM
<b>Venue</b>	Department of Information Technology, School of Technology, NEHU, Shillong 793022 <b>(Online mode. Link will be notified shortly)</b>
<b>Merit list publication</b>	Friday, 13 <sup>th</sup> November, 2020
<b>Date of Admission</b>	Monday, 16 <sup>th</sup> November, 2020
<b>Commencement of class</b>	Wednesday, 18 <sup>th</sup> November, 2020

In case, any candidate fails to login or appear for the test on the specified date and time mentioned above, he/she will forfeit his/her candidature. There will not be any second entrance test at any circumstances.

A merit list shall be prepared based on the composite score of the followings:

- Marks secured in the entrance exam.
- Weightages will be given to the candidates as per the criteria mentioned in the prospectus2020.
- Weightage will be given to the candidates having valid GATE score.

The decision of the admission committee in all matter shall be binding and final.

All the candidates who have applied for admission in M. Tech. (IT), 2020 through the NEHU online admission portal are eligible to appear the entrance examination test. **No separate admit card or call letter will be issued for the same.**

*You are further informed to upload the following documents using the google form link <https://forms.gle/LwdSCt2n9TcqXgma8>, failing which your candidature will stand cancelled:*

- Pass certificates of all board/council/University examinations starting from HSLC or equivalent.
- Mark sheets/grade cards of all board/council/University examinations starting from HSLC or equivalent.
- One official transcript/grade to percentage conversion formula.
- Valid certificate for SC/ST issued by Deputy Commissioner (DC) or competent authority under the seal of DC's office only.
- Permanent Resident Certificate for those who are claiming the permanent resident of Meghalaya.
- Valid GATE score card (if qualified).
- Relevant documents against any claim of special category (E.g. EWS, Kashmiri migrant, NEHU quota etc. refer prospectus for more details).

Sd/-

**Chairman**  
**M.Tech (IT) Admission Committee**

## **The detailed syllabus of written test for M. Tech. (IT) Entrance Examination 2020**

### **C Programming (20 marks)**

Variables and Data Types, Operators and Expressions, Branching and looping operation, Functions, Arrays, Structures and Unions, Pointers, File Management.

### **Data Structure & Algorithm (20 marks)**

Array, Linked List, Queue, Stack, Tree, Graph, Hashing, Searching, Sorting Algorithm.

### **Computer Organization & Architecture (20 marks)**

Machine instructions and addressing modes, ALU and data-path, CPU control design, Memory interface, I/O interface (Interrupt and DMA mode), Instruction pipelining, Cache and main memory, Secondary storage.

### **Operating System (10 marks)**

Processes, Threads, Inter-process communication, Concurrency, Synchronization, Deadlock, CPU scheduling, Memory management and virtual memory, File systems, I/O systems, Protection and security.

### **Data Communication & Networking (10 marks)**

ISO/OSI stack and TCP/IP protocol, LAN technologies (Ethernet, Token ring), Flow and error control techniques, Routing algorithms, Congestion control, TCP/UDP and sockets, IP(v4), Application layer protocols, Basic concepts of hubs, switches, gateways, and routers.

### **Mathematics (20 marks)**

Mathematical Logic, Probability, Set Theory, Algebra, Permutations, Combinations, Graph Theory, Linear Algebra, Numerical Methods, Calculus.