

**MES Abasaheb Garware College, Karve Road, Pune- 411004.**  
**NAAC Reaccredited 'A' Grade College (3<sup>rd</sup> Cycle)**  
**Best College Award by Savitribai Phule Pune University**

**Department of Computer Science**  
**M.Sc. (Computer Science) Online Entrance Examination, April 2018**

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1. Click on the following URL to apply online for M.Sc. (Computer Science) Online Entrance Examination:

<https://www.epravesh.com/GarwareEntrance/GarwareEntranceExams.aspx>

2. The Online Entrance Examination (Batch-wise) will be held at MES' Abasaheb Garware College, Karve Road, Pune-4, **on Friday, 27<sup>th</sup> April 2018.**
3. Detailed Batch-wise Timings will be displayed on 26<sup>th</sup> April 2018 at 2:00pm on College Website [www.mesgarwarecollege.org](http://www.mesgarwarecollege.org)
4. Fees
  - o **Form Fee: Rs. 350/- for Open Category Candidates**
  - o **Form Fee: Rs. 300/- for Reserved Category Candidates**
5. **Last date for application is 25<sup>th</sup> April 2018.**
6. The Online Entrance Examination consists of a single paper of 60 minutes duration that contains 50 questions carrying a maximum of 100 marks.
7. The Online Exam will consist of only objective questions. Each question has four options, out of which only one is correct.
8. The Candidate has to tick on the correct alternative.
9. There will be negative marking. Evaluation scheme is as follows:
  - i. For each correct answer, candidate will get +2 marks for that question.
  - ii. For each wrong answer, candidate will get -1 mark for that question.
  - iii. For each unattempted question, candidate will get ZERO mark for that question.
10. The syllabus for the said Examination is on Page Number 3 of this document.
11. Online Entrance Exam Result will be displayed immediately on computer screen after the completion of the Online Entrance Exam.
12. **Eligibility:** Bachelor of Computer Science (BCS) with 50% marks and 45% marks for reserved category. OR B.Sc. (Computer Science) with 50% marks. OR A Bachelor of Engineering in Computer Science/Information Technology/Electronic Telecommunication with 50% marks.

13. Admissions will be based on the Merit in Entrance Examination and Marks at Graduation level for the candidates graduated from Pune University, (50% weightage will be given to each one). **Admissions will be based purely on the Merit in Entrance Examination for the candidates graduated from OTHER UNIVERSITY.**
14. Admissions will be carried out strictly as per the Savitribai Phule Pune University Guidelines and Reservation rules as per the Norms of Govt. of Maharashtra.
15. Appearing for Online Entrance Examination is Mandatory for securing Admission to M.Sc (Computer Science) at MES' Abasaheb Garware College.
16. If the Candidate remains ABSENT for the Online Entrance Examination, then No fees shall be refunded at all.

**17. Payment Options:**

**Online payment:** Student can pay through Debit Card, Credit card or net-banking after online submission of their application form.

**D.D Payment:** Student can select D.D option after submission of application form. D.D. should be drawn in favor of "PRINCIPAL, ABASAHEB GARWARE COLLEGE".

**Applicant should write his/her Form Number and Name on the backside of DD.**

**Those who wish to POST the DD of the requisite amount shall address the envelope as follows:**

"APPLICATION FORM FOR M.Sc. (COMPUTER SCIENCE) ONLINE ENTRANCE EXAMINATION April 2018"

TO  
THE PRINCIPAL,  
MES ABASAHEB GARWARE COLLEGE OF SCIENCE,  
KARVE ROAD, PUNE-411 004.

Those who wish to submit the DD in person should submit in Non Grant Office Staff on all working days (Monday to Friday, and 2<sup>nd</sup> and 4<sup>th</sup> Saturday) in between 10:30 AM to 1:30 PM at the following address:

Non-Grant Unit Office,  
2nd floor, New Educational Building,  
MES ABASAHEB GARWARE COLLEGE OF SCIENCE,  
KARVE ROAD, PUNE-411 004.

**Principal**

# Syllabus for M.Sc (Computer Science) Entrance Examination

**Quantitative Aptitude:** percentages, profit and loss, averages and ages, time and work, time and distance, trains, simple and compound interest, ratio and proportions, partnerships, number systems, lcm and hcf, sequence, series

**Mathematical Logic:** Propositional Logic; First Order Logic.

**Probability:** Conditional Probability; Mean, Median, Mode and Standard Deviation; Random Variables; Distributions; uniform, normal, exponential, Poisson, Binomial.

**Set Theory & Algebra:** Sets; Relations; Functions;

**Combinatorics:** Permutations; Combinations; Counting; Summation; generating functions; recurrence relations.

**Digital Logic:** Logic functions, Minimization, Design and synthesis of combinational and sequential circuits; Number representation and computer arithmetic (fixed and floating point).

**Computer Organization and Architecture:** 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.

**Programming and Data Structures:** Programming in C, C++, Java, PHP; Functions, Recursion, Parameter passing, Abstract data types, Arrays, Stacks, Queues, Linked Lists, Trees, Binary search trees, Binary heaps.

**Theoretical Computer Science:** Regular Expressions, Finite Automata, Regular Languages, Context Free Grammar and Languages, Closure Properties of CFL.

**Compilers, Linkers, Loaders, Assemblers, Compiler Design:** Lexical analysis, Parsing, Syntax directed translation, Runtime environments, Intermediate and target code generation, Basics of code optimization.

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

**Databases:** ER-model, Relational model (relational algebra, tuple calculus), Database design (integrity constraints, normal forms), writing Relational Algebra queries, File structures (sequential files, indexing, B and B+ trees), Transactions and concurrency control.

**Computer Networks:** ISO/OSI stack, LAN technologies (Ethernet, Token ring), Flow and error control techniques, Routing algorithms, Congestion control, TCP/UDP and sockets, IP(v4), Application layer protocols (icmp, dns, smtp, pop, ftp, http); Basic concepts of hubs, switches, gateways, and routers.

**Software Engineering:** A process framework, PSP, TSP, Product and Process, Process Models, Agile Process, Agile Modeling, System Engineering.

**Object Oriented Software Engineering:** UML: Class, Object, Sequence, Activity, Collaboration, Component, Deployment, use case, and State Transition Diagrams.

**Computer Graphics:** Components of Computer Graphics Representation, Presentation, Interaction and Transformations, Input devices and output devices, transformations, clipping, Raster Scan Graphics