Guidelines for the Qualifying Examination for PhD Candidates
Department of Mechanical Engineering
(Applicable from July 2018)

Qualifying Examination:
This is a Department-mandated written examination, which has to be passed by the candidate for continuing in the PhD program, in addition to the mandatory credits requirements from the Institute.

Philosophy Behind the Qualifying Examination:
At the time of PhD admission, as the applicants come with different academic backgrounds from different places, it is not possible to completely judge their potential for doing a PhD. This disparity is eliminated in the qualifying examination, as they will get the opportunity to study the required subjects here. The examination will also ensure that there is a minimum common level of technical competency for all PhDs graduating from our department.

Who will evaluate:
A set of qualifying examination committees, appointed by the DPGC, will administer and evaluate the various papers.

Scope:
The qualifying examination will consist of three papers:
1. Applied Mathematics (AM)
2. Two Papers on Core Courses (CC)
The Applied Mathematics paper will be common to candidates from all the three groups. The papers on core courses will be different for candidates in different groups. The contents of the CC papers will be based on the syllabus provided for each of these papers (available on the Department website; follow the links PhD Academics → PhD Qualifiers).

Timelines:
Each candidate will get at the most two attempts to clear each of the three papers. Candidates with ME/MTech as the previous degrees must clear all papers (including both attempts, if required) within one year of their joining the program. Candidates with BE/BTech as the previous degrees must clear all papers (including both attempts, if required) within one-and-a-half years of their joining the program. A candidate need not appear for all three papers in a single attempt. However, as mentioned above, all papers must be cleared within the stipulated deadline to be eligible for continuing in the PhD program. The examinations will be offered twice a year: around January 15 and around July 15. The ME Office will announce the exact dates, sufficiently in advance.

Evaluation and Results:
- The grading of the papers will be done anonymously. The names of the candidates will not be revealed to the examiners.
- Each paper will be graded on a pass/fail basis. The candidate will be deemed to have passed the qualifying examination if he/she passes all papers. The minimum marks needed to pass each paper are set to 40% of the total marks for that paper, and this will be clearly mentioned on the question paper.
- Evaluated answer books will be shown to the candidates, along with a detailed solution with associated marking scheme. If the candidate feels that he/she is eligible for more marks, the candidate will be asked to provide a written application with detailed justification for his/her claim. This written application, along with his/her answer book, will be handed over to the concerned paper committee for their response. This process will be permitted only ONCE and the decision of the paper committee to award marks after this process will be considered to be final, with no more iterations.
- In case the candidate fails to pass all three papers within the stipulated deadline, the candidate will be required to discontinue from the PhD program with no obligation from the Department.

Design Engineering	Paper 1	Paper 2	Paper 3
	AM	DES1	DES2
	OR		
	AM	DES1	TFE1/TFE2/MFG1/MFG2
	OR		
	AM	DES2	TFE1/TFE2/MFG1/MFG2

Thermal and Fluids Engineering	Paper 1	Paper 2	Paper 3
	AM	TFE1	TFE2
	OR		
	AM	TFE1	DES1/DES2/MFG1/MFG2
	OR		
	AM	TFE2	DES1/DES2/MFG1/MFG2

Manufacturing Engineering	Paper 1	Paper 2	Paper 3
	AM	MFG1	MFG2
	OR		
	AM	MFG1	DES1/DES2/TFE1/TFE2
	OR		
	AM	MFG2	DES1/DES2/TFE1/TFE2

Subjects

Abbreviation	Name
AM	Applied Mathematics
DES1	Solid Mechanics
DES2	Kinematics and Dynamics
TFE1	Fluid Mechanics
TFE2	Heat Transfer
MFG1	Manufacturing Processes-1
MFG2	Manufacturing Processes-2