



GUIDELINES FOR THE AWARD OF PhD DEGREE

Rules for the Research Programmes

Maharashtra State Skills University

Rules for Research Programmes

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1. Departments Offering PhD Programmes

Maharashtra State Skills University offers research programmes in the following departments leading to award of degree of Doctor of Philosophy.

School of Science Engineering and Technology Skills (SSETS)		
Sr. No.	Department	Admission Eligibility*
1.	Mechanical Engineering	M.E./M.Tech. or Equivalent Degree in Mechanical/Mechatronics/Production/Thermal/Industrial/Machine Design/Aerospace/Automobile/Chemical Engineering.
2.	Information Technology & Computer Engineering	M.E./M.Tech. or Equivalent Degree in Engineering/Technology.
3.	Statistics, Mathematics and Simulations	M.Sc./M.A or equivalent Degree in Mathematics/Statistics/Computer Science or M.Stat. or Equivalent Degree or M.E./M.Tech. or Equivalent Degree in Engineering/Technology.
4.	Electronics and Telecommunication	M.E./M.Tech. or Equivalent Degree in Electronics/Electronics and Telecommunication/Electrical/Computer/Instrumentation Engineering. or M.Sc. or Equivalent Degree in Mathematics, Physics, Electronics / Electronics science.
5.	Civil Engineering	M.E./M.Tech or Equivalent Degree in Civil Engineering/Structural Engineering/ Construction Management Engineering/ Environmental Engineering
School of Commerce and Management Skills (SCMS)		
1.	Business	Master's Degree or Equivalent Degree in Retail / Banking and Finance / Insurance / Business law / Taxation / Marketing / Business Analytics / Accountancy & Auditing / Business Economics/any other relevant subject.
2.	Hospitality and Catering Technology	Master's Degree or Equivalent Degree in Hotel Management/any other relevant subject.
3.	Entrepreneurship Development	Master's Degree or Equivalent Degree in Innovation and New venture management/any other relevant subject.
4.	Commerce	Master's Degree or Equivalent Degree in Accountancy & Auditing/Business Economics/Finance/any other relevant subject.

*Detailed Admission Eligibility is mentioned in point 2 below.

A candidate shall ordinarily work in a recognized place of research including the University Departments, Research institutes and Affiliated Colleges recognized by the University Grants Commission.

The rules regarding eligibility, entrance examination, interview, registration, supervision, submission and evaluation of thesis, viva-voce, defense of thesis etc. shall be as follows:

2. Specializations & Intake

Sr. No.	Name of Programme	Specialization	Seats
1.	Doctor of Philosophy (Ph.D.)	<ul style="list-style-type: none"> • Data Science & Artificial Intelligence • Cloud Computing & DevOps • Cyber Security 	2 per specialization
2.	Doctor of Philosophy (Ph.D.)	<ul style="list-style-type: none"> • Business Management • Analytics 	2 per specialization

3. Application Procedure

- a. Applicant may apply online on website www.mssu.ac.in followed by a payment of INR 1200/- for open category and INR 600/- for reserved category. In case of exemptions from PhD Entrance Test (PET), for open category INR 800/- and for reserved Category INR 400/-.
- b. A fee for physically and visually challenged candidates is waived off.
- c. Applicants are advised to visit www.mssu.ac.in for getting the detailed information about PhD rules and regulations, syllabus for PhD Entrance Test, Eligibility Criteria, Criteria for exemption in PhD Entrance Test and detailed schedule.
- d. Required documents:
 - i. Documents related to Educational Qualifications
 - ii. Documents related to ID Proof
 - iii. Documents related to Reservation Category, if applicable
 - iv. Documents related to Industry/Research/Teaching experience, if applicable
 - v. Documents related to Exemptions in Ph. D Entrance Test (PET), if applicable
- e. Important Dates:
 - i. The starting date of receiving online application forms from the candidates: 08.2.2024
 - ii. The Last date of receiving online application forms from the candidates: 23.2.2024
 - iii. Date of PhD Entrance Test: To be announced
 - iv. For any query, candidate can write to: phdadmissions@mssu.ac.in

4. Eligibility

For admission to the Ph.D. programme, applicants fulfilling any of the following criteria shall be treated as eligible:

- a. Persons having passed Post Graduate Degree (Master Degree) Examination with at least 55% marks or equivalent Grade Point Average (GPA).
- b. 5 % relaxation in the required percentage of marks will be given to the students of State of Maharashtra belonging to SC/ST/DT/NT/SBC/OBC categories.

- c. Persons working in National Laboratories/institutes/Government/Private Organization nominated/sponsored by the respective employer. These persons should have a Post Graduate Degree and holding a rank of Assistant Director or above.
- d. Above mentioned rules will also be applicable to the foreign candidates who have obtained a Master's Degree from any of the recognized Indian Universities.
- e. Persons with exceptional abilities having passed graduate degree examination with 50% of marks and with 15 years' experience after graduation in the related field. However, candidates possessing B.E. Degree in the faculty of Engineering shall also have patents/ intellectual property rights registered in their names. In such cases, exceptional abilities will be decided by the Research and Recognition Committee concerned.
- f. Senior citizen of an age of 60 years and above, with a Master's Degree. In exceptional cases, the eligibility for senior citizen shall be at the discretion of the Director of the Institute.
- g. A Graduate in any Faculty who has developed important new technology (new for the country) or designed and fabricated special instruments or apparatus which are deemed by a competent judge to be a valuable contribution in the field of Engineering/Management, may be permitted by the Research and Recognition Committee of the Faculty concerned, on the recommendation of appropriate Board or Boards of Studies to submit his thesis for the Ph.D. Degree in that Faculty. Such a candidate must have at least 5 years' standing as a Bachelor of the Faculty concerned.
- h. Application for research in inter-disciplinary areas and from applicants belonging to a Faculty or subjects other than the faculty or subjects in which the research is proposed to be done and from the international candidates (those who have not obtained the Master's Degree from Indian Universities) shall be considered on the basis of the proven ability and aptitude of the researcher for such kind of research. Such proposal shall be examined by the Guide and the Chairman Board of Studies (BoS) concerned before giving provisional admission. The admission will be confirmed after the Research and Recognition Committee/s concerned, approves the topic. Detailed procedure for admission should be evolved by the Faculty concerned.
- i. Percentage of marks required for admission of foreign candidates (those who have not obtained Master's degree from Indian Universities) will be 50% or equivalent GPA at Master's degree level.

5. Procedure for conduct of Entrance Examination

Entrance Examination will be normally conducted once in a year and two admission cycles consecutively. It is essential for Foreign Students also.

(a) Exemption for Entrance Examination

- The candidates fulfilling at least one of the following conditions will be exempted from Entrance Examination:
- Qualified in GATE (valid score*)/GPAT (valid score*)/SET/NET/JRF/SRF examination of the apex bodies as CSIR/UGC/ICAR/ICMR/DBT and DST Inspire fellowship only;
- M.Phil. Degree in a relevant subject completed from any Recognized University;
- Minimum experience of 5 years as an approved teacher in university affiliated colleges /recognized institution/University Department.
- Senior citizen of an age of 60 years and above with Master's degree;

- Candidates such as Advocates/Doctor's/Artist/Industry Professional/Employees of Government, Semi -Government Organisations fulfilling conditions prescribed for the relevant Faculty. (To be decided by the respective departments/ Research Centres)
- Candidates entitled for exemption from the Entrance Examination shall submit the Registration Form along with relevant supporting documents within the stipulated period before the date of interview.

6. Entrance Examination Pattern

- a. The PET (Ph.D Entrance Test) for the faculty of Engineering and Technology will be based on two papers. Paper 1 will be based on the following:
 - a. **Section I:** Common syllabus to all streams.
 - I. Research Methodology
 - II. Mathematics
 - b. **Section 2:** Department specific syllabus.
 - I. Paper 1 and Paper 2 will carry the weightage of 100 marks each and the candidates securing equal or more than 50% marks for Open category and 45 % Marks for SC/ST/DT/NT/SBC/OBC/EWS will be shortlisted for the interview.
- b. The test will be conducted by the Concerned Department of MSSU. The duration of Paper 1 is 120 minutes and that for Paper 2 will also be 120 minutes.
- c. The students shortlisted from PET will be required to appear for the interview before the panel of members.

7. Allotment of Research Guide

Allotment of Research Guide will be done by the respective Departments as per the following guidelines:

- i. On the basis of the interview, allotment of Research Guides for selected candidates shall be decided by the Departments/Research Centres in a formal manner depending on the number of candidates per faculty, the available specialization among the Research Guides and the research interest as indicated during interview by the candidates. The allotment/allocation of Research Guide shall not be left to the individual candidate or guide. Guide-wise quota will be declared. Reservation policy will be observed at the time of allotment. The reservation will be followed as per guide basis e.g. (out of eight vacancies, four should be open and four should be reserved category)
- ii. While granting admission to candidates to Ph.D. programmes, the Departments/Research Centres will follow the State Reservation Policy. Foreign candidates will be treated at par with Open Category for admission. Only one foreign student will be permitted per guide.
- iii. Chairman of Board of Studies concerned will ensure the allotment of guide(s) within 3 months from the date of selection of the candidates.

8. Application

Every person, if he/she is otherwise eligible and qualifies as per above conditions and is desirous of doing research work for the Ph.D. degree shall face the interview before the Committee constituted for

the purpose. All such candidates will apply to respective Departments/Research Centres for registration for the purpose of interview. Candidates exempted from Entrance Examination as per Clause 2 (a) shall also have to register their candidature with the respective Departments/Research Centre. Candidates will be interviewed by the Committee constituted for the purpose as per clause 6 below.

The Committee shall consist of:

- Chairman of Board of Studies concerned or his nominee
- Two subject Experts (as approved by the R&R committee)
- Two nominees of the Vice-Chancellor - One General and One Reservation

9. Admission/Registration after the interview

- a. An eligible applicant seeking admission to the Ph.D. programme shall apply to the Registrar, in the prescribed Application Form along with the registration fee as may be prescribed from time to time, ordinarily within a period of six months from the date of allotment of the Research Guide.
- b. The applicant shall submit, along with the application, eight copies of his/her Ph.D. proposal.
- c. An eligible applicant shall be required to make a brief presentation at the place of research before a Committee constituted as under:
 - i. Chairman of Board of Studies concerned or his nominee
 - ii. Research Guide
 - iii. Two experts (recognized research guides in the subject concerned, one from another institute)
- d. The presentation will be arranged by Chairman of Board of Studies concerned on a date suggested by the Research Guide.
- e. After satisfactory presentation, the Committee will prepare a report on the basis of the presentation. In case of any suggestions given by the Committee for improvement of topic, the candidate shall make changes accordingly and present the topic again before the said Committee within 3 months of the earlier presentation. After successful presentation, the proposal shall be placed before the Research and Recognition Committee. The date of the successful presentation shall be treated as the date of provisional admission of the candidate and the candidate shall be given provisional admission/registration letter. In case of any dispute/problem, the Chairman of Board of Studies concerned shall take an appropriate decision.
- f. If the presentation is unsatisfactory; the proposal shall be rejected, and the applicant shall be required to submit a fresh proposal and make a presentation again after a gap of three months and before six months from the date of earlier presentation.
- g. The Research and Recognition Committee shall consider approval of the topic of research and appoint, in case of inter-disciplinary subjects, co-guide/s recognized by the University or, in special circumstances, by any other recognized University.
- h. The date of registration shall be the date of provisional admission. The registration shall be valid for five years. Extension up to a maximum period of two years shall be given by the Research and Recognition Committee/s concerned only if considerable work has been done by the candidate. The candidate concerned must submit the application for extension through his guide and Chairman of Board of Studies concerned to Chairperson of Research and Recognition Committee

three months before the expiry of the registration period. Further extension of one year will be given by Chairperson of Research and Recognition Committee on the recommendation of the guide concerned.

- i. If the candidate desires, he/she can partially modify the title and the proposed plan of the research, and the Research and Recognition Committee concerned shall approve such changes on the recommendation of the guide.
- j. Registered candidates shall not be allowed to register simultaneously for any other degree course.
- k. The admission will be confirmed after the Research and Recognition Committee approves the topic. The Chairman of Board of Studies concerned shall admit the candidates as per the rules and regulations of the University.

10. Course Work

- a. The course work is compulsory and will carry 20 credits. The bifurcation of these credits is as under:
 - i. 5 credits for Research Methodology which includes research methodology, quantitative methods, computer application, tools and techniques including instrumentation, communication skills, seminar presentation and review of published research.
 - ii. 10 credits for subject specific (2 subjects) course work.
 - iii. 5 credits for field work, seminar and other academic activities.
- b. The evaluation will be done by the faculty of the concerned Department.
- c. Admitted candidates shall be required to undertake course work organized by the Department, or as the case may be. The course work will be for a minimum period of one semester. The course work shall be treated as pre-Ph.D. preparation. The Department shall decide the minimum qualifying requirement for allowing a candidate to proceed further with the writing of the Ph.D. thesis. If found necessary, course work may be carried out by doctoral candidates in related departments/institutes either within or outside the University, for which due credit will be given to them.

11. Supervision

A. Guide

1. Normally a candidate shall be required to complete his/her doctoral research under the supervision of the guide allotted to him/her. However, the Research and Recognition Committee concerned may allow change of guide on the production of a 'No Objection Certificate' from the first guide and an acceptance letter from the new guide. In case of such a change, the candidate shall work for a minimum period of one calendar year under the new guide before he/she submits the thesis. A 'No Objection Certificate' will not be required if the candidate justifies the non-availability of his guide. The justification will have to be endorsed by the Chairman Board of Studies concerned. In case of any dispute/problem, non-availability of the guide, the Chairman Board of Studies concerned, will take an appropriate decision.
2. At any given time, a guide shall not have more than eight registered Ph.D. candidates working under his/her supervision.

3. In case of a dispute between a candidate and his guide, the Committee consisting of the following shall examine the matter and report to the Registrar, whose decision shall be final.
 - Chairman Board of Studies [Convenor]
 - Two Faculty nominated by the Vice Chancellor
4. If the complaint is against Chairman Board of Studies, he/she shall not participate in the proceedings of the meeting. In that case, additional member/s may be appointed by the Vice Chancellor to replace them].
5. The report shall be submitted to the Registrar including among other things, specific recommendations.

B. Progress:

- a. All the registered candidates shall be required to submit to the Chairman Board of Studies concerned, through their research guides, elaborate progress report every six months. If a candidate fails to submit three reports consecutively, his/her registration may be treated as cancelled on recommendation of Chairman BoS concerned.
- b. The Chairman Board of Studies concerned within fifteen days after the completion of the given period [one and half years], shall send to the Assessment & Evaluation Section of the University, a report on the non-compliance of the condition stated in 9(B) (1). The Chairman Board of Studies concerned shall also send a copy of the progress report submitted by the candidate to the Assessment & Evaluation Section of the University, with fifteen days after the completion of the given period [one and half years].
- c. The progress reports submitted shall be placed by the Chairman Board of Studies concerned before the Progress Monitoring Committee consisting of -
 - i. Chairman BoS of another Department
 - ii. The Research Guide,
 - iii. A Research Guide recommended by Chairman Board of Studies concerned from amongst the recognized research guides of the University.
- d. The Committee shall scrutinize the progress reports and prepare a brief statement on the progress of the candidate. In case of dispute, the Chairman Board of Studies concerned shall take final decision. The Registrar office shall maintain the record of these reports and statements.

12. Submission and Evaluation of Thesis

A. Submission of Thesis

- a. The submission of synopsis may be permitted only after completion of 36 month from the date of registration and after successful completion of the Course Work. The synopsis should contain introduction, chapter-wise brief account of the work done and overall conclusions. Ph.D. candidates can publish research paper in a standard refereed journal before the submission of the thesis/monograph as per the UGC norms for adjudication and produce evidence for the same in the form of acceptance letter or the reprint.
- b. At least three months before the date of submission of the thesis, each candidate shall give a pre-submission seminar to be arranged by the Chairman Board of Studies concerned at the University Department on the request of the candidate duly endorsed by the guide. The final

plan of the thesis will be discussed by the research scholars present, among whom the presence of the research guides and the Chairman Board of Studies concerned, or his/her nominee shall be necessary.

- c. In the light of the discussion during the seminar mentioned above, the candidate shall submit to the Registrar fifteen copies of the synopsis of his/her thesis through his/her guide within one month from the date of presentation of seminar. The guide may recommend list of referees to the Assessment and Evaluation section of the University.
- d. The candidate shall be allowed to submit his/her thesis after the completion of a period of two months and before six months from the date of submission of the synopsis, failing which the candidate will have to pay the prescribed fine for late submission. Late submission of thesis shall be allowed up to the completion of one year from the date of submission of the synopsis or till the expiry of the registration period, whichever is earlier. The candidate will have to submit synopsis again, if given extension.
- e. The thesis shall be submitted in compact bound form along with a soft copy (Pen Drive). Along with the thesis, five copies of the abstract shall be submitted. The final thesis shall be presented in accordance with the following specifications:
 - i. The paper used for printing shall be of 44 size;
 - ii. Printing shall be in a standardized form on one side of the paper and in 1.5 line spacing;
 - iii. A margin of 1.5 inches shall be, on the left-hand side.
 - iv. The card for cover shall not be more than 330 GSM.
 - v. The title of the thesis, name of the candidate, degree, name of the guide, place of research and the month and year of submission shall be printed on the title page and the front cover.
 - vi. The hard-bound thesis cover shall be of black colour. Spine of the binding [side cover] should mention 'Ph.D. thesis' on the top, name of the candidate and month and year.
- f. The candidate shall submit to the Registrar three copies of his/her thesis and produce an acknowledgement of the receipt of thesis by the Research Guide and the Board of Studies concerned
- g. The thesis shall include a Certificate of the guide and a Declaration by the candidate that the work reported in the thesis has been carried out by the candidate himself/herself and that the material from other sources, if any, is duly acknowledged.
- h. The thesis shall be written in English except when it is related to Modern European or Indian languages. Exceptional cases may be considered by Research and Recognition Committee for writing the thesis in Marathi language only.

B. Appointment of Examiners

- a. The procedure for the appointment of examiners shall be undertaken soon after the candidate submits his/her synopsis.
- b. The thesis should be sent to three examiners and evaluated by any two external examiners for the respective Faculty as mentioned below:
 - i. For Faculty of Science/Engineering/Technology/Management - one examiner from India and one should be from out of India;

- ii. For other faculties - one examiner from within the State and one should be out of the State.
- c. The guide of the candidate shall be an internal examiner.
- d. The Chairman for the Viva-Voce and the Panel for defence of the thesis shall be appointed by the Chairman Board of Studies or by the Registrar when the Chairman is the guide, from a panel of three experts suggested by the guide.
- e. If the approval of the examiners' panel is delayed beyond three months, the Ph.D. candidate, through his guide may bring this to the attention of the Registrar directly who, in such a case, may initiate an appropriate action in consultation with the Chairman Board of Studies concerned ensuring that the panel is approved within a month.
- e. The Registrar may indicate the order of priority of examiners from 1 to 3 as per the classification for various Faculties given in clause (2) above.

C. Evaluation

- a. After the approval of the panel of examiners by Board of Assessment and Evaluation. The Director Assessment and Evaluation shall invite the first three examiners from the approved panel, to examine the thesis' The Director Assessment and Evaluation shall forward the thesis to the examiners within a week from the date of the receipt of the acceptance letter of the examiner or the submission of thesis, whichever is later. If an examiner does not accept the invitation within thirty days from the date of dispatch of the invitation letter, the Director Assessment and Evaluation shall send an invitation letter, to the next examiner on the panel.
- b. The external examiners shall independently send their reports to the Director Assessment and Evaluation within sixty days from the date of receipt of the thesis The reports sent by fax or e-mail by using the 'postscript' package will be accepted. If an examiner fails to do so, the Controller of Examinations shall send him/her a reminder immediately after the expiry of the said period and request him/her to submit the report within thirty days. If the examiner concerned fails to comply even within the extended period, the Director Assessment and Evaluation shall cancel his appointment forthwith and invite the next examiner from the approved panel to evaluate the thesis. In the event of a request for the late submission of a report, receipt of the report after the appointment has been cancelled or the loss of report, postal delay, etc., the Chairman BoS concerned shall take an appropriate decision in the interest of the candidate concerned.
- c. The positive reports received from the external examiners and the Research Guide (Internal Examiner) shall be immediately forwarded to the Director Assessment and Evaluation who, after ascertaining that the reports are favourable, shall arrange the viva and the defence of the thesis at the earliest date suitable to the Internal Examiner, the nearest external examiner, and the Chairperson. The Director Assessment and Evaluation shall nominate the Chairperson for the defence from a panel of three senior research guides to be suggested by the Internal Examiner. The Assessment and Evaluation section shall make the reports available to the candidate, the Research Guide and the Chairperson at least a day before the date of the viva. In case of any problem, the Chairman BoS concerned will take an appropriate decision.

- d. In case one out of two external examiners give unfavourable report, then the Director Assessment and Evaluation shall get the thesis examined by an additional examiner from the panel of examiners approved by the Board of Examinations. If the additional examiner also gives an unfavourable report, the candidate will be declared to have failed.

13. Viva Voce and Defence of The Thesis

- a. The day, date, time and the place for the viva voce and the defence of thesis shall be notified by the Chairman BoS concerned at least eight days in advance. Normally, the viva voce and the defence of the thesis shall be arranged in the University Department. In exceptional cases, the Vice-Chancellor may allow the viva to be conducted at a Place of Research outside the University campus. In such a case, the procedure, and norms for the conduct of viva, payments, etc. shall be as laid down by the University.
- b. The defence of the thesis shall take place in the presence of the Guide (Internal Examiner), one External Examiner and the Chairperson, who shall jointly evaluate the performance of the candidate.
- c. In case of dispute, the Chairman BoS concerned shall take an appropriate decision. If neither of the external examiners is able to be present at the time of the defence, the Vice-Chancellor, on the recommendation of the Guide and the Chairman BoS concerned, shall appoint a senior research guide to act as an examiner for the defence of the thesis. In case the Internal Examiner is not available, the Vice-Chancellor shall appoint one of the senior research guides on the recommendation of the Chairman BoS concerned.
- d. The examiners present for the viva-voce and the defence of the thesis shall submit to the DAE their final consolidated report along with the reply given to the queries raised by the external examiners in the written form, signed and accepted by the members of the Viva-Voce Panel and a list of the persons attending the open defence, in respect of the award of the Ph.D. degree immediately after the defence is over.
- e. In case the defence is not satisfactory, the examiners may unanimously recommend with reasons that a fresh viva-voce and defence of the thesis be organized within a period of not less than one month. If the defence is still not satisfactory; the Committee would record the reasons for the same. The Committee may recommend the resubmission of the thesis with suggested changes or recommend the rejection of the thesis.

14. Depository with the University Grants Commission

- a. Following the successful completion of the evaluation process and announcements of the award of Ph.D., the University shall submit a soft copy of the Ph.D. thesis to the University Grants Commission within a period of thirty days, for hosting the same in INFLIBNET accessible to all Colleges/institutions/Universities.
- b. The University shall issue a provisional certificate, certifying to the effect that the Degree has been awarded in accordance with the Regulations issued by the University Grants Commission.
- c. The overall result shall be officially declared by the Director Assessment & Evaluation within eight days from the date of the receipt of the favourable report on the defence of the thesis.
- d. All rules and regulations laid down MSSU, UGC and AICTE are governing rules and supersede in case of any ambiguity.

- e. It is the responsibility of the applicant to fulfil the eligibility conditions and comply with admission requirements. In case of any false information submitted by the candidate, his candidature shall be liable for cancellation.
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