

ORDINANCE

for

The Degree

of

Doctor of Philosophy (Ph.D.)



Modipuram, Meerut

December 2009

**Approved by the Academic Council in its meeting held on 30 December, 2009
and amended vide ACM held on 24 September, 2011.**

Ordinance for the Degree of Doctor of Philosophy (2009)

All Schools/ Centres/ Departments of Shobhit University shall be eligible to offer Ph.D. programmes. None of the Schools/ Centres/ Deptts shall conduct any Ph.D. programme through distance mode. These rules shall be applicable to all the new candidates joining Ph.D. programmes of Shobhit University on/ or after July 11, 2009, the date of gazette notification of UGC (Minimum Standards and Procedure for Award of M.Phil./ Ph.D. Degree), Regulation, 2009, after approval of the Ordinance by the Academic Council.

1. Categories of candidates for admission to Ph.D. programmes

- **Full-time** candidates
- **Part-time** candidates

A **full-time** Ph.D. candidate shall be required to remain present in the University campus till submission of his/her Ph.D. thesis. He/she shall also have to undertake minimum 6 hours per week of academic work load as assigned by the School in which, he/she is registered for Ph.D. programme besides the course work and Ph.D. work. Such candidates are eligible to receive assistantship from the University or fellowship from CSIR/UGC or any other funding agency.

A **part-time** Ph.D. candidate can be a regular Shobhit University academic or non-academic faculty/staff member who satisfies the eligibility requirements. Other eligible candidates can be those who are sponsored by Public Sector Undertaking/ Research and Development Organizations/ Private Industries/ Service Sectors/ Educational Institutions/ any other State and Central Government Organization where adequate infrastructure exists for carrying out research work. All such candidates shall have to spend at least one Semester in the concerned school for carrying out the requisite course work as prescribed by the School Research Degree Committee (SRDC).

2. Eligibility

A candidate seeking registration for the Degree of Doctor of Philosophy (Ph.D.) in Shobhit University must possess the following qualifications:

Engineering, Management, Pharmacy & other Professional Courses:

- (a) Master's Degree with at least 55% marks in the appropriate field of Engineering/ Technology/ Pharmacy/ Management/ Architecture of a University or its equivalent.

OR

- (b) Bachelor's Degree in Engineering with a minimum of 75% marks in aggregate in relevant field of Engineering/ Technology/ Architecture of a University or its equivalent, with at least five years of experience in Public Sector Undertaking/ Research and Development Organizations/ Private Industries/ Service Sectors/ Educational Institutions/ any other State and Central Government Organizations.

Basic & Applied Sciences and others:

- (c) M.Phil. Degree of a University, with first division for exemption from pre-Ph.D. course.

OR

- (d) Master's degree or its equivalent, with at least 55% marks in the relevant field of Science/ Humanities etc.

Notwithstanding anything contained in the above mentioned rules (a) to (d), the eligibility criteria/ guidelines prescribed and/or issued by UGC from time to time shall be applicable for registration to all Ph.D. Programme(s) of the University. The University shall encourage inter-disciplinary research activity.

Sponsored Candidates

An employee of a Government Department/ Government Undertaking, a Research/ Development Organization, Public Sector Undertaking, an Educational Institution, a private Industry services with a minimum relevant working experience of three years may be considered for admission as a sponsored (full-time/ part-time) research scholar. Sponsored applicants will be eligible for admission provided they are treated by their employers as on duty.

3. Application

A candidate seeking registration for Ph.D. degree must apply to the University on the prescribed application form. The application form shall be accompanied by:

- (i) Documents supporting all academic qualifications (Attested copies of the mark-sheet/ grade-sheet and degree certificates).
- (ii) Documents supporting his/her previous work experience, if any.
- (iii) Prescribed application fee, as applicable.
- (iv) No Objection Certificate (NOC) from the employer, in case the candidate is employed.
- (v) Migration Certificate.

4. Admission Procedure

Notification for admission to the Ph.D. programmes of different Schools/ Centres shall be put up on the University website or through newspaper advertisements. The Schools/ Centres shall also determine the number of seats available for Ph.D. candidates along with research areas depending upon the availability of supervisors on annual basis.

The eligible candidates shall apply on the prescribed application form available from the University/ Website. The duly completed form with the prescribed fee shall be submitted to

the Registrar, Shobhit University, NH-58, Modipuram, Meerut – 250 110 on or before the notified date.

The eligible candidates will be called for an entrance test on the notified date and time. Subsequently a personal interview of the candidates who qualify the entrance test will be held to consider applicants proposed research area(s). The sponsored candidates have to appear in written test and personal interview.

Note: *The candidates who have qualified UGC/CSIR (JRF) examination/ NET/ SLET/ GATE or are holder of teacher fellowship or have passed M.Phil. degree, from a recognised university may be exempted from the University entrance test. However, they shall be required to appear for personal interview and to discuss their proposed research area(s).*

Allocation of Supervisor(s):

The allocation of the supervisor for a selected student shall be made formally by the School/ Centre/ Department depending upon the research interest of the student and the availability of a supervisor.

5. (a) Pre-requisite for the submission of synopsis

Course Work:

All Ph.D. students shall be required to undertake course-work for a minimum period of one semester as a pre-requisite which shall include a course on Research Methodology, review of published research in the relevant field besides one or more courses from the relevant field/ interdisciplinary area, as may be prescribed by School Research Degree Committee (SRDC)/ Supervisor(s).

However, the NET-qualified/ M.Phil./ M.Tech./ M.Pharm./ MBA candidates may be exempted from one or more courses on the basis of their previously completed coursework and marks/grades obtained in the same, on recommendations of the SRDC.

The course work may be carried out by the Ph.D. candidates in sister departments/ institutions either within or outside the University, if recommended by the SRDC for which due credit shall be given to them.

The candidate must achieve a satisfactory grade (B or above) in each prescribed course before he/she is allowed to proceed with the submission of the synopsis (as per the Appendix D) to the SRDC, for approval. Maximum number of attempts allowed in a course is two. If a candidate fails in both the attempts then his/her registration will be cancelled. The candidate may reregister.

The proposed subject codes for Ph.D. courses were placed before the Council. The same were approved by the Council unanimously. It was further recommended that attendance monitoring be done in the same way as envisaged in the ordinance for UG & PG Courses and if a candidate fails in a course, he/she will have to leave the course. It was further mentioned that initially admission to Ph.D. Course shall be offered if the candidates qualify the entrance test & interview followed by registration after the specific recommendation from SRDC on successful completion of the courses. Teaching and evaluation of Ph.D. course work and subject code will be as under :-

- (i) 1st course- Research Methodology - Evaluation on the basis of written exam.
- (ii) 2nd course- Review of published research work - Evaluation on seminar basis.
- (iii) 3rd course- Emerging trends in area of research - Evaluation on seminar basis.
- (iv) 4th course- Relevant field/interdisciplinary area - Evaluation on the basis of written exam.

Subject Codes:-

- (i) Since the syllabus of Research Methodology is same as in M.Phil, therefore the same codes may be used for the subject course.
- (ii) The codes for other courses will be based on Alpha-Numeric pattern as under:-
There will be two alphabets indicating the subject viz EC,CS,BT,BI,BM,BS,PS,MA,PH,CY and AI and so on. After 2 alphabets, there will be three numbers as under:
 - 1st number will be 9 indicating a Ph.D. degree.
 - 2nd number will be either 0 indicating a theory course or 5 indicating a practical course or 8 indicating a seminar course.
 - 3rd number will be 1 or 2 indicating 1st or 2nd semester.

Example - A code PS901/PS902 will stand for a Ph.D. Theory Course of Pharmaceutical Sciences to be offered either in 1st or 2nd semester.

(Auth- Agenda Item No. 2.1 & 2.2 of ACM held on 24.9.2011).

After approval of the synopsis, the candidate shall undertake proposed research work and produce a thesis within a reasonable time as stipulated.

(b) Pre-requisite for the submission of the thesis

Evaluation and Assessment :

Prior to submission of the thesis, the student shall make a pre-submission presentation in the School/ Centre/ Deptt. that shall be open to all faculty members and other research scholars for getting feedback and comments which may be suitably incorporated in the draft thesis under the advice of the supervisor(s).

6. School Research Degree Committee (SRDC)

The School Research Degree Committee (SRDC) shall consist of the following members:

- Vice-Chancellor/ Nominee of the Vice-Chancellor: Chairperson
- Director of the concerned School: Member
- One Professor/Assoc. Professor (other than the Supervisor(s)), having the knowledge of the research area of the candidate: Member
- Internal Supervisor(s): Member
- Two subject-experts (Professors/ Assoc. Professors/ Readers/ Senior Scientists or equivalent) from any University/ Institution other than Shobhit University, to be nominated by the Vice-Chancellor from the panel submitted by the concerned Director: Member

Note : The presence of at least one subject expert is necessary for holding any meeting of SRDC.

7. Duties and Powers of SRDC :

- (a) SRDC shall examine the synopsis of the proposed Ph.D. work for registration and shall give a clear report as
- The Topic and the synopsis approved.
 - Submit the synopsis again.
 - Reject the proposal.
- (b) At least three members shall form the quorum for the meeting of the SRDC. However, presence of one of the external experts is essential for holding the meeting.
- (c) The minutes of the SRDC meeting shall be reported by the Director concerned in the next meeting of the Academic Council for ratification.

8. Supervisors :

For each candidate, there shall be at least one supervisor, called the Internal Supervisor, from the University.

A. Internal Supervisor

A person shall be appointed internal Supervisor if he/she

- (i) holds a Ph.D./ D.Lit./ D.Sc. degree in the concerned subject.
- (ii) is a faculty member of Shobhit University possessing a minimum of 2 years teaching experience at the PG level or a minimum of 3 years research/ industrial/ teaching experience at the UG level after obtaining his/her Ph.D. degree in both the cases.
- (iii) a recognized Supervisor shall be eligible to supervise even after his/ her superannuation.

B. External Supervisor

- (i) SRDC may recommend an External Supervisor if the nature of research work so warrants. In such a situation, there will be an internal Supervisor and an External Supervisor.
- (ii) A Professor/ Associate Professor/ Reader/ Senior Scientist or equivalent in any University/ Institution/ Research Lab/ Industry, having a Ph.D./ D.Lit./ D.Sc. degree, and who is duly approved by the SRDC shall be permitted to act as an

external Supervisor. In case a person is not approved earlier, the candidate shall enclose two copies of the resume of the person proposed as external Supervisor, along with the application form for approval by the SRDC.

(iii) A retired Professor/ Assoc. Professor/ Reader/ Senior Scientist or equivalent having Ph.D./ D.Lit./ D.Sc. degree in the concerned subject, if approved by the SRDC, shall also be permitted to act as an external Supervisor.

(iv) A person already approved by SRDC as an External Supervisor.

Note: *A close relative of the candidate cannot function as an internal or external Supervisor.*

9. Maximum number of research candidates that can be registered and allowed to pursue research under a Supervisor at any particular time shall not exceed **eight**, provided that, the candidates who have already submitted their thesis shall not be counted with the supervisor.

10. **Place of Work**

(a) The School/ Centre in the University shall be the place of work for the full-time candidates.

(b) In case of a part-time candidate, a Research Lab/ Institution/ University/ Industry/ Centre where the candidate and the External Supervisor work and which has the required research facilities and there is formal permission for use of the laboratory to the student for research work, can also be the place of work in addition to the University, subject to approval of SRDC.

Note: *In case the candidate or the external supervisor changes his/her University/ Institution, the work place of the candidate may also change to the new work place of the candidate or the external supervisor, if it has the required research facilities. The candidate is required to seek prior approval from the SRDC for any such change.*

11. **Duration for submitting Ph.D. Thesis**

(a) **Full-time Research Scholars**

(i) A full-time research scholar is permitted to submit his/her thesis after 30 months from the date of registration. Further he/she shall publish at least **two** research papers related to his/her work in refereed Indian Journals or at least **one** paper in refereed International Journal, before the submission of the thesis and produce evidence for the same either in the form of an acceptance letter or the reprint of the paper. A review paper published in any journal shall not count towards the above requirement.

(ii) University faculty members who have registered for Ph.D. with at least one supervisor from the same university will be permitted to submit his/her thesis after 30 months if he/she has published three or more papers in National or International Journals of repute.

(iii) The maximum time allowed for submission of the thesis shall be 5 years (60 months) from the date of registration. This period can be extended by one year by the Vice-Chancellor under special and genuine circumstances. No further extension shall be

granted and the registration to Ph.D. shall stand cancelled after the expiry of 6 years (72 months) from the date of registration.

(iv) Vice-Chancellor may permit a candidate to get re-registered on the same topic on payment of a re-registration fee as decided by the University from time to time, for a further period of two years. The requirement of regular attendance shall not apply to such re-registered candidates. In such a case, the candidate shall apply to the University one month before the expiry of the last extension period. If the candidate is unable to submit his/her thesis in the stipulated period, his/her registration shall stand automatically cancelled, and the University shall not be bound to inform the candidate about the cancellation.

(b) Part-time Research Scholars

(i) A part-time research scholar is not permitted to submit his/her thesis earlier than 36 months from the date of registration. Further he/she shall publish at least **two** research papers related to his work in refereed Indian Journals or at least **one** paper in a refereed International Journal, before the submission of the thesis and produce evidence for the same in the form of an acceptance letter or the reprint of the paper. A review paper published in any journal(s) shall not count towards the above requirement.

(ii) The maximum time allowed for submission of the thesis shall be 6 years (72 months) from the date of registration. This period can be extended by one year by the Vice-Chancellor under special and genuine circumstances. No further extension shall be granted and the registration to Ph.D. shall stand cancelled after the expiry of 7 years (84 months) from the date of registration.

(iii) Vice-Chancellor may permit a candidate to get re-registered on the same topic on payment of a re-registration fee as decided by the University from time to time, for a further period of two years. The requirement of regular attendance shall not apply to such re-registered candidates. In such a case, the candidate shall apply to the University one month before the expiry of the last extension period. If the candidate is unable to submit his/her thesis in the stipulated period, his/her registration shall stand automatically cancelled, and the University shall not be bound to inform the candidate about the cancellation.

(c) *The period for submission of thesis can be reduced by 6 months on the recommendations of the URDC if a candidate has published at least 04 (Four) research papers in National/International Journal and these papers should be indexed in the SCOPUS with their Impact Factor.*

Note 1: *Application for an extension can be considered only when it has the recommendations of the supervisor(s).*

Note 2: *Extension of period after 5/6 years shall not be automatic. Application for extension shall be considered if submitted to the office of the Director of the concerned School 4-6 months*

prior to the date of expiry of 60/72 months period, as the case may be.

12. Change of Supervisor :

(a) Internal Supervisor

- (i) The change of internal supervisor can be permitted by the Vice- Chancellor on the recommendations of SRDC on production of the No Objection Certificates (NOC) from the Supervisor(s).
- (ii) Vice-Chancellor, on the recommendations of the SRDC may permit the internal supervisor who has left the University or has retired from the university service, to continue as the supervisor.

(b) External Supervisor

In case of non-availability of the External Supervisor for any reason, the Vice-Chancellor, on the recommendations of the SRDC, can either permit another external supervisor (under clause 7 (b)) or allow the candidate to work and submit the thesis under the Internal Supervisor alone.

13. Cancellation of Registration :

The registration of a candidate to a Ph.D. programme may be cancelled

- (i) automatically, on the expiry of the period of extension granted by the Vice-Chancellor or the maximum time allowed under Clause 11(a)(iii) or 11(b)(iii), as the case may be, in case the extension has not been sought from the Vice-Chancellor.
- (ii) if the candidate is found involved in an act of gross indiscipline, unlawful activities, plagiarism and/or any such activity that may endanger the peace in the University campus.

14. Progress Reports

- (a) The candidate shall submit a Progress Report (Annexure –1) every 6 months (not later than 3 weeks of completing 6 months).
- (b) The Progress Report shall be signed by the candidate and the Supervisor(s).

15. Submission of Thesis

- (a) Based upon the research work done, the candidate may modify the synopsis, before three months of the submission of thesis and shall present it to the SRDC for approval. Prior to submission of the thesis, the student shall make a pre-submission presentation in the Department that may be open to all faculty members and research students, for getting feedback and comments, which may be suitably incorporated into the draft thesis under the advice of the Supervisor. The Director of the concerned School/ Centre shall constitute a committee, including the supervisor(s) who will formally submit the report on the performance of the candidate in the pre-submission presentation. The candidate can submit the thesis to the University after incorporating the modifications/ suggestions

made by the above committee, if any. The Supervisors shall certify that the modifications/suggestions made by the above committee have been duly incorporated.

- (b) The candidate shall submit to the University the following documents at the time of submission of the Ph.D. Thesis :
- (i) Six copies of the Synopsis approved by the SRDC and six copies of the Summary of the thesis.
 - (ii) Six hard-bound typed (on one side) copies of Thesis. The thesis shall also be accompanied by :
 - (a) A certificate from the candidate (Annexure –2).
 - (b) A certificate from the supervisor (Annexure - 3).
 - (c) A brief Summary of the work done (in about 2000 words).
 - (d) An appendix at the end of the thesis containing reprints of the research papers already published.
 - (e) Self-attested photocopies of the acceptance letters of the research papers accepted for publication.
 - (f) List of communicated research papers along with author(s) name(s), name of the Journal to which the paper has been communicated and the date of communication.
 - (iii) A copy of the receipt of applicable examination fee, along with no dues certificate.
 - (iv) A certificate from the Supervisor in terms of Clause 13(a).
 - (v) A soft copy on CD/ DVD of the items referred to in Clause (i) and (ii) above.

16. Evaluation of the thesis

- (a) The supervisor shall inform through the Director of the School to the Registrar of the University about the intent to submit the thesis two months before its submission along with
 - (i) Four copies of the synopsis, duly approved by the SRDC.
 - (ii) Names and contact details of at least eight examiners, not below the rank of an Associate Professor in the research area of the candidate, in a sealed envelope. The list must also include at least two names of examiners who are from outside the State in which the University is located. It may include the names of one or two names of examiners from outside India.

Note: *The name of any close relative of the candidate or of the supervisor shall not be included in the panel of examiners.*

- (b) From this panel, the Vice-Chancellor shall appoint *three* examiners ensuring that one of the examiners is from outside the State. One of the Examiners may be appointed from outside the country. The Vice-Chancellor may include any new name.
- (c) The examiners would be requested to submit the evaluation report within three months of the receipt of thesis. In case of any undue delay by any examiner, the Vice-Chancellor may appoint an alternate examiner(s) after due intimation to the existing examiner(s).
- (d) For awarding the Ph.D. degree, the thesis must comply with the following conditions :
 - (i) It must be a piece of research work characterised either by the discovery of new facts or by fresh approach towards the interpretation of the existing facts or theories. In either case, it should provide evince the candidate's capacity to make critical examination and sound judgment.
 - (ii) It must be satisfactory in language and presentation of the subject matter.
- (e) The examiners shall specifically report on the prescribed proforma whether the thesis fulfils the requirements of the clauses 14(d)(i) and (ii). They shall clearly recommend whether the thesis be:
 - (i) Approved as it is,
 - (ii) Approved after minor revision,
 - (iii) Be resubmitted after major revision with
 - a) Major rewriting
and/or
 - b) Some extra work,

The examiners shall also answer the following:

- a) Do you agree to re-evaluate the revised thesis ? (Yes/No)
- b) If re-evaluation is not needed, should the candidate be allowed to appear in the viva-voce examination with the revised thesis ? (Yes/No)
- (iv) Rejected (In such a case, the Examiner should clearly mention the reason(s) for rejection)
- (f) (i) If atleast two examiners clearly recommend for the viva-voce examination and award of the degree, then the Ph.D. viva-voce examination shall be held.
- (ii) If one examiner recommends for the viva-voce examination and the other two suggest modifications, or all the three examiners suggest modifications, then the candidate shall be asked to re-submit the thesis within one year from the date of communication after revising it in the light of modifications suggested by the examiner(s).

- (iii) The revised thesis shall be sent to the examiner(s) who suggested modifications and accepted to re-evaluate the thesis, for final opinion. If atleast two of the examiners recommend for viva-voce examination and award of degree, then Ph.D. viva-voce examination will be held. Otherwise the Vice-Chancellor may refer the case to a high level committee. The decision of the committee will be final.
- (iv) In case, the thesis is recommended by the examiners with minor modifications, the same shall be incorporated in the thesis before the viva-voce examination.
- (g) In case the thesis is recommended, an open viva-voce examination of the candidate shall be held by the viva-voce Board comprising of.
 - (i) One External Examiner who will be one of the thesis examiners. (The name of the external examiner shall be approved by the Vice-Chancellor)
 - (ii) Director of the concerned School.
 - (iii) Supervisor(s)

The suggestion/ modifications suggested by the Viva Voce Board should be incorporated.

- (h) The date, time and venue of viva-voce examination shall be notified by the Registrar and the copies of the reports of the Examiners will be provided to the Supervisor(s) in a sealed envelope at least one week in advance. At the time of viva-voce examination, the Viva Voce Board shall be provided copies of the reports of the examiners.
- (i) The candidate shall present the work embodied in the thesis before the Board of examiners, members of faculty, research scholars and other persons interested in the subject. After the presentation of the research work, the members of the Board shall ask questions together with the questions, raised in the examiners' reports. After the formal viva is over, the members of the audience can also ask questions.
- (j) The viva-voce Board shall give a final decision and a clear verdict whether the candidate be awarded the Ph.D. degree or be asked to re-appear for viva-voce examination once again. In case of the second verdict, the candidate shall be required to re-appear for viva-voce before the same Board, on a date to be decided by the University.

17. Award of Ph.D. Degree

- (a) After successfully clearing the viva-voce examination, the candidate shall be awarded Ph.D. degree after the approval of the Board of Management.
- (b) The award of Ph.D. degree can be withdrawn by the University in case the thesis submitted by the candidate is found to be a duplication of an old work or pirated research work.

18. No research scholar shall join any other course of study or appear at any other examination conducted by any University leading to a degree (except Certificate Course of Languages, Research Methodology, Statistics, Computer Courses etc).

19. The approved thesis shall be published only after obtaining permission from the University and such publication shall state on the title page itself that **this was a thesis approved for the award of the Ph.D. degree of the University.**

20. Provisional Degree

The candidate may be issued a Provisional Certificate after successful completion of the examination procedure in accordance with the provisions of the UGC (Minimum Standards and Procedure for Awards of Ph.D. Degree) Regulations 2009 and after the Vice-Chancellor approves the recommendation of the Viva-Voce Board.

21. Depository with UGC

Following the successful completion of the evaluation process and announcement of the award of Ph.D., the University shall submit a soft copy (in the form of CD/DVD) of the Ph.D. thesis to the UGC within a period of 30 days for hosting the same in INFLIBNET to be made accessible to all Institutions/ Universities.

22. Notwithstanding anything contained in the Ordinance, all the Ph.D. candidates/ research scholars shall be governed by the rules and procedures prevailing at the time of registration.

23. Notwithstanding anything stated in this Ordinance, for any unforeseen issues arising, and not covered by the Ordinance, or in the event of difference of interpretation, the decision of the Vice-Chancellor shall be final.

Appendix – 1:

Format of Synopsis

The synopsis (approximately 5000 words) shall contain the following :

- (i) Topic of the research work.
- (ii) Area/Specialization of the research work.
- (iii) Aims and objectives of research work.
- (iv) Methodology of the research work.
- (v) A survey of literature in the area of research.
- (vi) The impact of the research work on academics/industry/society.
- (vii) The proposed plan of work: It will include a tentative schedule of research work.
- (viii) A list of equipments, software and other tools/ facilities, needed for the proposed research as part of the required Lab facility and its availability/ provisions made.
- (ix) Bibliography.
- (x) List of previous publications of the candidates, if any.

Progress Report

(To be submitted every 6 months from the date of Registration)

Name of the School/Centre where registered :

1. Name of the Research Scholar :

2. Registration No. and the Date of Registration :

3. Topic of Research :

4. Name(s) of the Supervisor(s) 1)

2)

5. Period for which the report is being submitted: From.....to.....

6. Report (Brief details of the work done, papers published/ communicated, conferences attended/ paper(s) presented, etc.)

Supervisor(s)

Research Scholar

- Note :
1. Please attach one copy each of the previous Progress Report(s), if any.
 2. Please attach copies of papers published/communicated, if mentioned in the above progress report.

Declaration by the Candidate

I, hereby, declare that the work presented in this thesis, entitled
..... in fulfillment of the
requirements for the award of Degree of Doctor of Philosophy, submitted in the School of / Centre
for at Shobhit University, Modipuram, Meerut
is an authentic record of my own research work carried out under the supervision of
.....

I also declare that the work embodied in the present thesis

- (i) is my original work and has not been copied from any Journal/thesis/book, and
- (ii) has not been submitted by me for any other Degree or Diploma of any university/ institution.

Signature of the candidate

Certificate of the Internal Supervisor(s)

This is to certify that the thesis, entitled “.....” submitted by for the award of Degree of Doctor Philosophy in the School of / Centre for of Shobhit University, Meerut is a record of authentic work carried out by him/her under my/our supervision.

To the best of my/our knowledge, the matter embodied in this thesis is the original work of the candidate and has not been submitted for the award of any other degree or diploma of any university or institution.

It is further certified that he/she has worked with me/us for a period of in the School of / Center for , Shobhit University, Modipuram, Meerut.

(Internal Supervisor)

Certificate of the External Supervisor(s)

This is to certify that the thesis entitled “.....” submitted by for the award of Degree of Doctor Philosophy in the School of / Center for of Shobhit University, Meerut is a record of authentic work carried out by him/her under my/our supervision.

To the best of my/our knowledge, the matter embodied in this thesis is the original work of the candidate and has not been submitted for the award of any other degree or diploma.

It is further certified that he/she has worked with me for a period of in the School/ Center/ Department of

(External Supervisor)