

# **COURSE HANDOUTS AND GUIDELINES**

**FOR**

## **FIRST DEGREE THESIS**

**(Course Numbers: BITS F421T/BITS F422T/BITS F423T/BITS F424T)**

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**BITS Pilani**  
Pilani Campus

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS**

**January 2016**

## CALENDAR OF EVENTS

### 1. THESIS COURSE

I Sem.	II Sem.	Item	From	To
AUG 16	JAN 22	TS-1 Form	Student	Head of Department
AUG 28	JAN 29	Detailed outline of work	Student	Supervisor
SEP 05	FEB 10	Viva –I	Student	Supervisor
OCT 08	MAR 15	Mid. Semester written report and presentation (Turnitin Originality Report" and "Digital Receipt" of the turnitin report included at the end of the report)	Student	Supervisor
<b>OCT 08</b>	<b>MAR 15</b>	<b>Mid. Semester Grader</b>	<b>Supervisor</b>	<b>Head of Department</b>
NOV 15	APR 15	Viva – II	Student	Supervisor
NOV 28	APR 30	Thesis abstract	Student	Supervisor
NOV 28	APR 30	Final thesis report submission	Student	Supervisor
Dec 1 - 8	May 3-10	Final Viva	Student	Examiner
<b>Dec 1 - 8</b>	<b>May 3-8</b>	<b>Final Thesis Report as soft copy in CD and one hard copy, Final Evaluation Form (Turnitin Originality Report" and "Digital Receipt" of the turnitin report included at the end of the final report)</b>	<b>Supervisor</b>	<b>Head of Department</b>

Note: If any of the above date happens to be a Sunday or a holiday, the immediate next date will be the calendar date. FINAL THESIS REPORT should invariably be submitted on or before the above mentioned date.

## **FIRST/SECOND SEMESTER**

### **COURSE HANDOUT: BITS F421T/BITS F422T/BITS F423T/BITS F424T THESIS**

#### **1. Scope and Objective of the course**

The aim of the thesis course is to train a student in the methodology of research, to cultivate a logical and creative thinking and to make him express his findings in the form of a scientific report. It also gives an opportunity to the student to comprehend his subject knowledge and apply it to the given problem.

#### **2. Operation of the course**

- a. The student should immediately chalk out a plan of work in consultation with the supervisor. The supervisor will spell out the objectives and expected rate of progress. Literature survey should be carried out to ascertain the current state of work in the proposed area of thesis. The detailed outline of the work must include a time schedule clearly indicating the intermediate milestones and the estimated time to reach the same.
- b. Within two weeks of registration, the student should give his Thesis particulars to the Head of Department in TS-1 Performa.
- c. Typed /word-processed copy of final thesis are to be submitted to the supervisor on or before the last day of class work in the semester.
- d. ONE typed copy of Thesis Abstract (ONLY) should be submitted to the supervisor along with the Final Report. The ABSTRACT should also be a part of the Bound Report in the same format. The suggested format is given below.

#### **Format of submission of Thesis Abstract**

-----  
Thesis Title:

Supervisor:

Semester: First/Second

Session

Name of Student:

ID No:

Abstract (Approx 1000 to 2000 words)  
-----

e. Separate thesis topic has to be assigned to an individual student. Wherever the broad area is same, the aspects to be researched by an individual candidate should be clearly focused and spelt out.

7. Utmost care should be taken in the preparation of the FINAL REPORT. A check-list of various items is provided and students should carefully go through these. Supervisors are also requested to examine the draft of the FINAL REPORT keeping in view the items in the checklist. Title of the thesis should be proper and should be indicative of the type of work done. (Turnitin Originality Report" and "Digital Receipt" of the turnitin report must be included at the end of the final report)

#### **3. Evaluation**

Evaluation is essentially individual oriented. The various components of evaluation along with the weightage of each component and the due day/week are given below:

Weightage	Week in which due	Component
Viva –I	15	5th week
Mid. sem. written report	15	10th week
Mid. sem. Presentation	15	10th week
Viva –II	15	15th week
Final Thesis*	25	Last day of class work
Final Viva-voce*	15	Actual date announced by DRC

\*Final Thesis and Final Viva are to be jointly evaluated by the supervisor and the examiner appointed by the DRC (Departmental Research Committee).

The evaluation will recognize the day-to-day work involvement and punctuality of the student in the thesis work. Evaluation in various components shall take into account work progress and achievements, technical/professional competence, documentation and expression, initiative and originality, punctuality and reliability, self-reliance, and acquisition of special skills.

The student should extend full cooperation to his supervisor and interact with him in advance about the time, venue and mode of each evaluation. He should regularly meet his supervisor and present his work periodically. Proposed examiners may also be invited to attend Mid Semester presentation and viva sessions.

#### 4. Grading Procedure

Grading will be done mainly on the basis of the progress made towards attaining the overall objectives of the Thesis. The supervisor shall evaluate various prescribed components of evaluation before the submission of final thesis. The final thesis and performance in the final viva are to be jointly evaluated by the panel consisting of supervisor and examiner appointed by the DRC.

Supervisor should make the Final Thesis Report available to the examiner well in advance. Before sending, he should check the contents of the Thesis, verify the checklist and sign the 'Certificate from the Supervisor'. He should also check whether "Turnitin Originality Report" and "Digital Receipt" of the turnitin report is included at the end of the final report. Evaluation in various components can be done on the basis of marks or grades. However, the recommendations for the final award shall invariably be made in terms of one of the prescribed grades, viz. **A/A-/B/B-/C/C-/D/E**. The student will have to defend the work appearing in his/her thesis before the panel of examiners. Detailed outline of work and the mid-semester written report submitted by the student should be made available by the Supervisor to the examiner. Before giving recommendations for the final grade in the thesis, the examiners shall also take a note of the overall performance of the candidate as indicated through various reports, mid-semester grade, etc. A proper correlation amongst the various reports, final thesis and performance in the viva shall guide the recommendations for the final award.

Immediately after the viva, the supervisor shall send ONE copy of the completed Final Evaluation Form for the Thesis to the Head of Department in a sealed cover. The other copy will

be retained by him. Final Thesis Report as soft copy in CD and one hard copy (Turnitin Originality Report" and "Digital Receipt" of the turnitin report included at the end of the final report) must also be submitted to HOD. The student should ensure with his supervisor that the evaluation forms reach the HOD well before the last date of comprehensive examination. He should also verify all items of check-list.

### **5. Mid-semester Grading**

This will be announced by the supervisor to his student some time in 10th week of the semester. Mid-semester Evaluation Form must be submitted by supervisor to Head of Department in 10<sup>th</sup> week.

### **6. Make-up Policy**

Since thesis is a full time involvement, there is no scope of any make up in this course.

### **7. Attendance and Routine Matters**

a. Thesis is a full time involvement and it is the responsibility of the student to be in full attendance. He should be available for interaction as frequently as desired by supervisor. In his mid-semester report, the student should state quantitatively his attendance for all the working days falling in the period of the report. A student is liable to be awarded NC if he does not cooperate with his supervisor.

b. Every student has to sign his attendance regularly with the supervisor or as per the alternative arrangement made by the supervisor. An attendance sheet is being provided for this purpose to the supervisor. The candidate should apply and seek prior permission of his supervisor for going on leave for any genuine needs.

c. If the leave of absence exceeds SEVEN days in the entire semester, the recommended final grade by the examiners may be revised by the Instructor-in-charge in consultation with the supervisor.

d. For routine matters such as work place, laboratory help, contingency expenditure etc., the concerned Head of the department may be contacted through the supervisor.

e. For using central facilities like IPC, CAD, Instrumentation, Workshop, IMA lab, various stores, etc., students must follow the procedures laid down by the respective In charges of the facility.

f. For field trips out of Pilani, a complete plan indicating purpose, Duration and place of work should be given through the supervisor to Head of Department in advance for his approval.

g. The final viva cannot be held before the date on which comprehensive exam begins. The exact dates of final viva are scheduled by DRC spanning within the comprehensive examination period. However, depending on the exigencies of individual situation, these dates may be changed. Therefore, the students should plan in such a manner so that they are available till the end of comprehensive examination in the semester. If the THESIS is not submitted on the last day of class work as stipulated and examiners do not have sufficient time to read the Report, student will only be responsible for any delay in holding the Viva on the announced date.

h. The format of Thesis Cover/ Title page and 'Certificate from the Supervisor' are appended. NO OTHER FORMAT SHOULD BE USED. Abstract of the thesis should invariably be included in the thesis in the prescribed format. Suggested sequence for the organization of the Final Thesis is given below:

i. First page (inner cover)

ii. Acknowledgement

- |  |  |
|--|--|
| iii. Certificate from the Supervisor     | x. Bibliography/References (in standard format)                                |
| iv. List of Symbols & Abbreviations used |  |
| v. Thesis Abstract                       | xi. List of Publications/Conference Presentations, if any.                     |
| vi. Table of Contents                    |  |
| vii. Chapters 1,2,3,etc.                 | xii: Turnitin Originality Report" and "Digital Receipt" of the turnitin report |
| viii. Conclusion                         |  |
| ix. Appendices                           |  |

Each student is expected to learn the standard methodology of presenting references and bibliographical details through Library/self study work. Standard format should be used while reporting the same in Thesis. Mere reproduction from the books/papers should be avoided and relevant portion should only be referred.

### **8. Chamber consultation Hours**

Each student is expected to fix up consultation hours with his supervisor. He can meet the Head of Department with a prior appointment.

### **9. Course Notices**

All the notices issued shall be placed on Department Notice Board.

#### **Check List of Items for Final Report of First Degree Thesis**

1. Is the Report's 'Cover/Title page' in proper format?
2. Is 'Supervisor's Certificate' in proper format? Has it been signed?
3. Is 'Abstract' included in the Report? Is it in proper format?
4. Does the 'Contents' page include chapter page numbers?
5. Does the Report contain a summary of the literature survey?
6.
  - (a) Are the pages numbered properly?
  - (b) Are the figures numbered properly?
  - (c) Are the tables numbered properly?
  - (d) Are the figures and tables titled properly?
  - (e) Are the appendices numbered?
7. Does the Report contain 'Conclusion' of the work?
8. Are References/Bibliography given in the Report?
9. Have the 'References' been cited in the Report?
10. Is the citation of 'References and Bibliography' in the standard of Department format?
11. Is "Turnitin Originality Report" and "Digital Receipt" of the turnitin report included at the end?

Attention should be paid on the above items while preparing the FINAL REPORT. Supervisors are also

requested to ensure that their candidate(s) have prepared the FINAL REPORT properly.

### Illustrative Examples of Citation of References:

1.	Book: A. Gelb, Applied Optimal Estimation. Cambridge, M.A.; M.I.T. Press, 1974
2.	A paper in Conference or Symposium Proceedings edited Published by Book Company: R.E. Kalman, 'New Methods in Wiener filtering theory', in Proc. First Symposium on Engineering Applications of Random Function Theory and Probability' J.L. Bogdanoff and F. Kozin, Eds. New York, Wiley, 1963, pp. 270-388
3.	A Journal Paper: R.E. Kalman and N.S. Pucy, 'New results in linear filtering and prediction theory', Trans. ASME, J. Basic Eng., Vol. 83-D, pp. 95-108, Mar. 1961
4.	A Conference Paper: M. Vidyasagar and N.K. Bose, 'Input-output stability of linear systems defined over measure spaces', in Proc. Midwest Symp. Circuits, Syst., Montreal, P.O. Canada, Aug. 1975, pp 394-397
5.	A Ph.D. thesis or Thesis A.C.G Viera, 'Matrix, orthogonal polynomials, with applications to autoregressive modeling and ladder forms', Ph.D. Thesis, Stanford Univ., Stanford, CA, Dec. 77

### Format of the Cover/Title page of the Thesis

**(Title of the Thesis)**

Thesis

Submitted in partial fulfillment of the requirements of  
BITS F421T/BITS F422T/BITS F423T/BITS F424T Thesis

By

**(Author)**

ID No. ( )

Under the supervision of

-----  
**(Name and Designation of Supervisor)**

Institute emblem

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMUS

(Date)

### Format of 'Certificate from the Supervisor'

## CERTIFICATE

This is to certify that the Thesis entitled, \_\_\_\_\_  
\_\_\_\_\_ and submitted by  
\_\_\_\_\_ ID No. \_\_\_\_\_ in partial fulfillment of the requirement of BITS BITS  
F421T/BITS F422T/BITS F423T/BITS F424T Thesis embodies the work done by him/her under my  
supervision.

Signature of the Supervisor

Date:

**Name**

Designation

### **OPERATIONAL DETAILS FOR INSTRUCTORS:**

The operational details for Instructors of the Thesis are outlined below:

1. Please ask your student to supply their particulars to Head of Department in Proforma TS-1.
2. Please suggest a panel of Two examiners to DRC for evaluation of the Thesis. You are requested to inform the proposed examiners and obtain their consent. Efforts shall be made to choose one examiner from the panel. You may invite the proposed examiners for the Mid semester and other presentation components.
3. Details of the evaluation are given in the handout. The marks/grades obtained in each of the component should be entered in the Final evaluation form. The record should be kept ready for examination at a very short notice. The Final Thesis and Viva performance should be jointly evaluated by you and the Examiner appointed for this purpose by Departmental Research Committee (DRC).
4. After the Final Viva, One copy the Final evaluation form should be submitted to the Head of Department. The other copy of evaluation form should be retained by the supervisor.
5. Final Thesis Report as soft copy in CD and one hard copy (Turnitin Originality Report" and "Digital Receipt" of the turnitin report included at the end of the final report) must also be submitted to HOD.
6. The grades in Thesis are in terms of **A/A-/B/B-/C/C-/D/E**.
7. If the leave of absence exceeds SEVEN days in a semester the recommended final grade may be revised by the supervisor. Supervisors are requested to verify the number of days a student has been on leave or on approved field trips.

### **Routine matters**

1. Every student has to sign his attendance regularly with his supervisor in the attendance sheet. The signed attendance sheet should be returned to the Head of Department along with the Final Evaluation Form.
2. A student should not take more than seven days of leave in a semester. The supervisor may directly sanction him leave. If his absence exceeds more than seven days his overall recommended grades may be revised by the supervisor.
3. If the performance of the student is below expectation and if he is not cooperating, the supervisor should hold discussions with him and counsel him on this aspect. If he still does not improve, a



written warning should be given to him with a copy endorsed to Head of Department and Associate Dean, ARD.

4. Supervisors should send the recommended Mid-semester evaluation form to the Head of Department latest by 10<sup>th</sup> week. The recommended Mid-semester grade may be announced by the supervisor to his student directly.
5. For field trips of students outside Pilani, a complete plan indicating purpose, duration and place of work should be given to Head of Department in advance for his approval.
6. One copy of all evaluation forms sent to Head of Department should be retained by supervisor.
7. Student should be kept informed of his performance in various components of evaluation.
8. The supervisors are requested to adhere to the dates given in the Calendar of Events.
9. In FINAL THESIS REPORT specified formats of Cover/Title page, Supervisor's Certificate, have to be adhered. Thesis has to be word processed/typed on A4 size white paper. References should be cited in a standard manner. Title of thesis should be proper and should be indicative of the type of work.
10. Supervisor should check the contents of the thesis and sign the certificate page before sending it to the examiners.
11. Classify the Thesis topic in one of the Areas of Research given in the Bulletin.

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS**

**FIRST/SECOND SEMESTER 20 -20**

**MID SEMESTER EVALUATION FORM**

**Section I PARTICULARS (TO BE FILLED BY STUDENT AND RETURNED TO SUPERVISOR)**

Semester \_\_\_\_\_ Session \_\_\_\_\_

ID No. \_\_\_\_\_ Name of Student \_\_\_\_\_

**Section II EVALUATION DETAILS (TO BE FILLED BY SUPERVISOR)**

<b>S.No.</b>	<b>Evaluation Component</b>	<b>Max. Marks</b>	<b>Marks awarded</b>
1.	Viva –I	15	
2.	Mid. Sem. Presentation	15	
3.	Mid. Sem. Written Report	15	
	Total	45	

Recommended Mid-semester grade **(A/A-/B/B-/C/C-/D/E)**:

"Turnitin Originality Report" and "Digital Receipt" of the turnitin report included : Yes/No

Report (NC/I/W) , if any:

Date: \_\_\_\_\_

Signature of Supervisor

N.B. Supervisor should announce the Mid. Sem. Grade to his student directly and return the form to the Head of Department.

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS**

**FIRST/SECOND SEMESTER 20 -20**

**MID SEMESTER EVALUATION FORM**

**Section I PARTICULARS (TO BE FILLED BY STUDENT AND RETURNED TO SUPERVISOR)**

Semester \_\_\_\_\_ Session \_\_\_\_\_

ID No. \_\_\_\_\_ Name of Student \_\_\_\_\_

**Section II EVALUATION DETAILS (TO BE FILLED BY SUPERVISOR)**

<b>S.No.</b>	<b>Evaluation Component</b>	<b>Max. Marks</b>	<b>Marks awarded</b>
1.	Viva –I	15	
2.	Mid. Sem. Presentation	15	
3.	Mid. Sem. Written Report	15	
	Total	45	

Recommended Mid-semester grade **(A/A-/B/B-/C/C-/D/E)**:

"Turnitin Originality Report" and "Digital Receipt" of the turnitin report included : Yes/No

Report (NC/I/W) , if any:

Date: \_\_\_\_\_

Signature of Supervisor

N.B. Supervisor should announce the Mid. Sem. Grade to his student directly and return the form to the Head of Department.

**FIRST/SECOND SEMESTER 20 - 20**

**FINAL EVALUATION FORM: BITS F421T/BITS F422T/BITS F423T/BITS F424T FIRST DEGREE THESIS**

ID No. \_\_\_\_\_ Name of Student \_\_\_\_\_

Name of Supervisor \_\_\_\_\_

Title of Thesis (as on thesis) \_\_\_\_\_  
\_\_\_\_\_

**I. EVALUATION**

S.No.	Evaluation Component	Max. Marks	Marks awarded
1.	Viva –I	15	
2.	Mid. Sem. Presentation	15	
3.	Mid. Sem. Written Report	15	
4.	Viva – II	15	
5.	Final Thesis Report	25	
6.	Final Viva	15	
	Total	100	

Recommended Mid-semester grade **(A/A-/B/B-/C/C-/D/E)**:

"Turnitin Originality Report" and "Digital Receipt" of the turnitin report included : Yes/No

**RECOMMENDED FINAL GRADE (A/A-/B/B-/C/C-/D/E):**

Report (NC/I/W), if any:

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Examiner

\_\_\_\_\_  
Signature of Supervisor

\_\_\_\_\_  
Semester

\_\_\_\_\_  
Name of Examiner

\_\_\_\_\_  
Name of Supervisor

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS**

**FIRST/SECOND SEMESTER 20 - 20**

**FINAL EVALUATION FORM: BITS F421T/BITS F422T/BITS F423T/BITS F424T FIRST DEGREE THESIS**

ID No. \_\_\_\_\_ Name of Student \_\_\_\_\_

Name of Supervisor \_\_\_\_\_

Title of Thesis (as on thesis) \_\_\_\_\_  
\_\_\_\_\_

**I. EVALUATION**

S.No.	Evaluation Component	Max. Marks	Marks awarded
1.	Viva –I	15	
2.	Mid. Sem. Presentation	15	
3.	Mid. Sem. Written Report	15	
4.	Viva – II	15	
5.	Final Thesis Report	25	
6.	Final Viva	15	
	Total	100	

Recommended Mid-semester grade **(A/A-/B/B-/C/C-/D/E)**:

"Turnitin Originality Report" and "Digital Receipt" of the turnitin report included : Yes/No

**RECOMMENDED FINAL GRADE (A/A-/B/B-/C/C-/D/E)**:

Report (NC/I/W), if any:

_____	_____	_____
Date .	Signature of Examiner .	Signature of Supervisor .
.	.	.
.	.	.
_____	_____	_____
Semester	Name of Examiner	Name of Supervisor

**TS-1 Form**

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI, PILANI CAMPUS**

**PARTICULARS OF THESIS (BITS F421T/BITS F422T/BITS F423T/BITS F424T)**

The student should correctly fill in this Proforma and submit to Head of Department within two weeks of registration.

Name of the Student \_\_\_\_\_

ID No. \_\_\_\_\_ Discipline \_\_\_\_\_

No. of units intending to register for (9 to 16): \_\_\_\_\_

Topic of the thesis: \_\_\_\_\_

E-mail ID: 1. BITS email ID \_\_\_\_\_

2. Non-BITS email ID \_\_\_\_\_

Phone Number: \_\_\_\_\_

Contact details of the Supervisor:

Name \_\_\_\_\_

Address (if off-campus): \_\_\_\_\_

E-mail id: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Contact details of Co-supervisor/Mentor (if any):

Name: \_\_\_\_\_

E-mail id: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Signature of the Student

**Panel of Examiners (To be suggested by the supervisor(s))**

S.No.	Name of Faculty	Department/Div./Unit
1.		
2.		

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of supervisor

(P.T.O)

**OUTLINE OF FIRST DEGREE THESIS**  
**(Attach extra sheet, if necessary)**

Aim and objective(s):

Background of work:

Plan of work:

Bibliography & References:

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Signature of student

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Signature of supervisor

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI**

**ATTENDANCE SHEET FOR FIRST DEGREE THESIS STUDENTS  
FIRST/SECOND SEMESTER**

**I. PARTICULARS**

Name of student \_\_\_\_\_ ID No. \_\_\_\_\_ Supervisor \_\_\_\_\_

Hostel \_\_\_\_\_ Room No. \_\_\_\_\_

**II. Attendance (Student to sign his initials)**

Month	DATES																Total working days	Days absent
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
Aug/Jan																		
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Sep/Feb																		
Oct/Mar																		
Nov/Apr																		
Dec/May																		

Note: Supervisor may decide to keep this sheet with him or with the Department office and ask the student to sign on each working day before a particular specified time. This sheet should be returned to Head of Department along with the Final Evaluation Form.

Date:

Signature of Supervisor