Minutes of 41st Meeting of the Senate of National Institute of Technology, Tiruchirappalli held on 29th November 2018 at 11.00 AM in EEE Auditorium, NIT, Tiruchirappalli

The following Members were present in the Meeting:

1. Dr. Mini Shaji Thomas  
   Chairperson
2. Dr. P. J. A. Alphonse  
   Member
3. Dr. N. Ammasai Gounden  
   Member
4. Dr. R. B. Anand  
   Member
5. Dr. S. Anandan  
   Member
6. Dr. N. Anantharaman  
   Member
7. Dr. M. Arivazhagan  
   Member
8. Dr. S. Arul Daniel  
   Member
9. Dr. G. Arthanareeswaran  
   Member
10. Dr. P. Asokan  
    Member
11. Dr. S. R. Balasundaram  
    Member
12. Dr. K. Baskar  
    Member
13. Dr. M. Bhaskar  
    Member
14. Dr. A. Chandra Bose  
    Member
15. Dr. D. Deivamoney Selvam  
    Member
16. Dr. K. Dhanalakshmi  
    Member
17. Dr. M. Duraiselvam  
    Member
18. Dr. N. Gopalakrishnan  
    Member
19. Dr. N. P. Gopalan  
    Member
20. Dr. J. Hemalatha  
    Member
21. Dr. T. N. Janakiraman  
    Member
22. Dr. P. Jayabalan  
    Member
23. Dr. R. Jeyapaul  
    Member
24. Dr. R. Karvembu  
    Member
25. Dr. P. A. Krishnan  
    Member
26. Dr. S. Kumanan  
    Member
27. Dr. S. Kumaran  
    Member
28. Dr. V. Kumaran  
    Member
29. Dr. S. P. Kumaresh Babu  
    Member
30. Dr. G. Lakshmi Narayanan  
    Member
31. Dr. R. Leela Velusamy  
    Member
32. Dr. C. Mala  
    Member
33. Dr. Mary Saira Bhanu  
    Member
34. Dr. K. M. Meera S. Begum  
    Member
35. Dr. S. Moses Santhakumar  
    Member
36. Dr. K. Murugesan  
37. Dr. R. Murugesan  
38. Dr. P. Muthuchidambaranathan  
39. Dr. K. Muthukkumaran  
40. Dr. K. Muthukumar  
41. Dr. V. Muthupandi  
42. Dr. C. Nagamani  
43. Dr. C. Natarajan  
44. Dr. S. Natarajan  
45. Dr. S. Nickolas  
46. Dr. R. Ponalagusamy  
47. Dr. M. Premalatha  
48. Dr. M. Punniyamoorthy  
49. Dr. T. K. Radhakrishnan  
50. Dr. S. Raghavan  
51. Dr. B. Ramadoss  
52. Dr. Ramakalyan Ayyagari  
53. Dr. S. Raman Sankaranarayanan  
54. Dr. N. Ramasubramanian  
55. Dr. S. T. Ramesh  
56. Dr. B. Ravisankar  
57. Dr. Samson Mathew  
58. Dr. P. Sathiyasudha  
59. Dr. V. J. Sivakumar  
60. Dr. S. P. Sivapirakasam  
61. Dr. P. Sivashanmugam  
62. Dr. T. Srinivas  
63. Dr. T. Srinivasa Rao  
64. Dr. D. Sriman Kumar  
65. Dr. G. Subbaiyan  
66. Dr. S. Sudha  
67. Dr. G. Swaminathan  
68. Dr. N. Thamaraiselvan  
69. Dr. M. Udayakumar  
70. Dr. G. Uma  
71. Dr. M. Umapathy  
72. Dr. S. Velmathi  
73. Dr. S. Venkatachalapathy  
74. Dr. A. Venkataswamy Reddy  
75. Dr. V. Vinod Balakrishnan  
76. Dr. K. Viswanathan Iyer

Minutes of 41st Meeting of the Senate held on 29th November 2018
The following members expressed their inability to attend the meeting:

1. Dr. K. Ramamurthy
2. Dr. Gurumurthy Neelakandan
3. Dr. G. C. Anupama
4. Dr. A. K. Bakthavatsalam
5. Dr. L. Cindrella
6. Dr. P. Kalaichelvi
7. Dr. N. Kumaresan
8. Dr. P. Palanisamy
9. Dr. V. Ravi Chandran
10. Dr. S. Shanmugam
11. Dr. N. Sivakumaran
12. Dr. K. Sundareswaran
13. Dr. AR. Veerappan
14. Dr. B. Venkataramani

The following members did not attend the meeting:

1. Dr. Michael Arock
2. Dr. R. Narayanasamy
3. Dr. J. Sarat Chandra Babu
4. Dr. D. Sastikumar
5. Dr. B. Vasuki
6. Dr. G. Venkatesa Prabhu

The Chairperson, Senate welcomed the members to the 41st Meeting of the Senate and having ensured a quorum, continued with the Senate proceedings. She shared some of the major achievements and developments since the last meeting of the Senate.
She welcomed the newly appointed Dean Dr. S. Raman Sankaranarayanan (ID & AR), and thanked Dr. Samson Mathew who held the additional charge of Dean (ID) till his appointment. The newly appointed Heads of Departments, Dr. Rajeshwari Sridhar (HoD, CSE) and Dr. K. M. Meera S. Begum (HoD, Chemical Engineering) are welcomed. The contributions of outgoing HoDs, Dr. Leela Velusamy and Dr. P. Sivashanmugam were appreciated.

The Chairperson congratulated Dr. M. Duraiselvam and his team for their contribution in setting up of Centre of Excellence in Manufacturing with help of SIEMEN’S in NIT, Tiruchirappalli. She urged all the co-ordinators of this programme and their team members to work hard to bring consultancy projects in collaboration with industries.

The Chairperson cited the recent MoUs with industries such as Tata Steel, BHEL, Tata Motors, SCL Chandigarh, SETS (Society for Electronic Transactions and Security), Chennai and Non-Disclosure agreement with Tech Mahindra and ABB and academic MoUs with IIT Bombay and IIT Mandi. Faculty members were urged to utilize this opportunity for enhancing collaborations academia and industry. Forthcoming CII meet on 04th December 2018 is an excellent arena to showcase our testing and research facilities.

The Chairperson highlighted the recent release of 5-year Strategic plan 2019-24 — Vision-mission, by the Honorable Minister for HRD Shri Prakash Javadekar. A wholehearted cooperation from all stakeholders is sought to take the institution to be among the top 500 in the world ranking.

The Chairperson appreciated the team effort of the office bearers of two new offices namely the Media and Public relations and the Alumni Institute Interaction Cell (AIIC). A sizeable contribution of Rs. 53 lakhs has been received from the 1978 batch Alumni. Two Alumni meets in USA and another in Bangalore have been successfully coordinated by AIIC.

The Chairperson applauded the efforts of students Kartik Venkataraman (IV Year CSE), Deep Bhattacharyya (IV Year CSE), Arutselvan D (IV Year ECE) and their faculty mentor Dr. Rajeswari Sridhar (HoD, CSE) for securing the second place in the Indo-Singapore Joint Hackathon held in Singapore from 13th to 15th November 2018.
A performance review and interaction with Departments were undertaken by the Chairperson recently whereby she urged faculty members to focus on important ranking (NIRF) parameters such as quality publications, Internal Revenue generation (IRG) etc.

The Chairperson congratulated all the faculty members, students, and non-teaching staff for their contribution in

- Making Green campus - Swatchata ranking by MHRD – 2018
- Festember and Sports Fete events
- Flood Relief in Kerala/ Gaja Cyclone

On the eve of completing two successful years of her tenure as Director, NIT, Tiruchirappalli, she thanked everyone for the excellent support and cooperation.

Following the welcome address by the Chairperson, Registrar started the deliberations on the agenda items.

1. **Confirmation of the Minutes of the 40th Meeting of the Senate held on 26th June 2018**

   The Senate resolved to confirm minutes of the 40th Meeting of the Senate.

   RESOLUTION
   
   RESOLVED THAT the Minutes of 40th Meeting 41/SENATE/2018/1 of the Senate held on 26th June 2018 be confirmed.

2. **Action Taken Report on the decisions of the 40th Meeting of the Senate**

   The Action Taken Report on the 40th Meeting of the Senate was discussed and Senate observed the following.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Resolution</th>
<th>Action Taken / Being Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 40/SENATE/2018/2</td>
<td>Item: ATR: 39/ SENATE /2018/4 Poor performance of B. Arch. I year students in the course “AR 103 History of Architecture –I”</td>
<td>The Senate considered the report submitted by Performance Analysis Committee (PAC) on the poor performance of B. Arch. I year students in the course titled “AR 103 History of Architecture –I” and directed the Department to explore the remedies to minimize recurrence in the future.</td>
</tr>
<tr>
<td>b. 40/SENATE/2018/2</td>
<td>Item: ATR: 39/ SENATE /2018/5 Modifications in the seat matrix for M. Tech. (Energy Engineering) by</td>
<td>Department of Energy and Environment informed the Senate that the BoS meeting will be conducted in December 2018 to finalize the eligibility criteria and seat matrix</td>
</tr>
</tbody>
</table>
considering all the other branches of Engineering for the M. Tech. (Energy Engineering) programme. The Senate directed the Department to submit their recommendations in the next Senate meeting.

c. 40/SENATE/2018/4
Items: The Senate considered the report submitted by Performance Analysis Committees (PACs) on the poor performance of 1 year students of B. Tech. Production Engineering in the course titled "MAIR21 Mathematics II". The poor performance of 1 year students of B. Arch. in the course titled "AR106 Mechanics of Solids" and directed the Departments to explore and implement the remedies to minimize recurrence in future.

The Senate directed the Department to submit their recommendations in the next Senate meeting.

d. 40/SENATE/2018/5
Item: Award of UG / PG / M. S. (by Research) and Ph.D. degrees in the 14th Convocation

The Senate authorized the Chairperson Senate to approve the award of degrees for the students who would complete the degree requirements on or before 18th July 2018 in the 14th Convocation.

The degrees were awarded on Convocation day (28th July 2018) for those graduates.

e. 40/SENATE/2018/7
Item: (ii). The weightage for SWIR11 NSS / NCC / NSO shall be one credit. Weightage for the attendance and performance shall be reviewed. (iii). The title of the courses "MAIR11 Mathematics - I" and "MAIR21 Mathematics - II" shall be modified based on the course contents. (iv). Learning objectives of course titled "MAIR21 Mathematics - II" shall be reviewed and modified by considering all the branches of Engineering.

The Senate was informed that the mooted points regarding the courses "SWIR11 NSS / NCC / NSO", "MAIR11 Mathematics - I" and "MAIR21 Mathematics - II" shall be included in the agenda for the forthcoming BoS meeting for GIR courses and subsequently the recommendations shall be placed in the next Senate meeting.

f. 40/SENATE/2018/9
Item: M. Tech. project work as intern in industry or research institution within India or foreign universities

The Senate was informed that the recommendations of PG expert committee in this regard shall be placed in the next Senate meeting.

g. 40/SENATE/2018/11
Item: M. S. (by Research) scholars (sponsored by BHEL) seeking

Research supervisors of the particular M. S. (by Research) scholars from BHEL were informed to conduct GTC to recommend the
resumption of the M.S. (by Research) programme

Upon the recommendation of the respective GTCs, the Senate approved the resumption of M.S. programme for seven scholars. The research supervisors of the remaining fourteen scholars are directed to conduct the GTC immediately.

h. 40/SENATE/2018/11
Item: penalty amount imposed on a full time research scholar for excessive downloading of articles from Elsevier Science Direct in an unauthorized manner

The Senate was informed that the scholar has paid the penalty amount to the institute as per the Senate resolution. Viva-voce examination has been completed and the provisional certificate has been issued to the Research scholar.

RESOLUTION
RESOLVED THAT the action taken on the decisions of 40th Meeting of the Senate be noted and approved with above mentioned observations of the Senate.

Approval Items

3. Revised eligibility criteria for admission into 5-year B. Arch. Degree course

The Institute has received the circular dated October 31, 2018 from Council of Architecture (CoA) regarding the revised eligibility criteria for admission into 5-year B. Arch. Degree course. As per this circular, the revised eligibility criteria for admission to 1st year of 5-year B. Arch. courses as approved by the Central Government will come into effect with effect from academic session 2019-20 onwards.

The revised eligibility criteria are as follows:

“No candidate shall be admitted to architecture programme unless she / he has passed an examination at the end of the 10+2 scheme of examination with 50 % marks in Physics, Chemistry and Mathematics and also 50 % marks in aggregate of the 10+2 level examination. Only candidates fulfilling the revised eligibility criteria shall be eligible for admission to the course from the session 2019-2020 onwards”.

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"As per the minimum standards for Architectural Education, the practical training shall be for a period of one semester (approximately 15 to 18 weeks) in the 8th / 9th semester of the B. Arch. Degree programme".

*The Senate approved the "revised eligibility criteria" for admission to the 1st year of the 5-year B. Arch. courses as approved by the Central Government.*

*Further, the Senate approved the recommendations of the Council of Architecture with respect to "practical training requirement as per the minimum standards for Architectural Education". In this context, the Senate directed the Department to conduct the Board of Studies to confirm the semester (8th / 9th Semester) in which the practical training can be conducted.*

RESOLUTION 41/SENATE/2018/3

RESOLVED THAT the "revised eligibility criteria" for admission to the 1st year of the 5-year B. Arch. courses as approved by the Central Government be approved.

FURTHER RESOLVED THAT the recommendations of CoA with respect to "practical training requirement as per the minimum standards for Architectural Education" be approved with the above mentioned observations of the Senate.

4. Conversion of seats for M. S. (by Research) programme into equitable no. of seats for Ph. D.

In NIRF and QS world rankings, 'graduation outcome of full time Ph.D. students' is one important criteria. Also the institutional research quality is measured using *citations per faculty* metric and quality of publications. Since the number of full time Ph.D. scholars has a direct impact on the number of the quality publications, it is beneficial to increase the no. of full time Ph. D. intake (institute fellowship) for better research output.

As per the admission statistics of full time M. S. (by Research) programme in the past years, students with lower GATE score (than for the M. Tech.

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admissions) enroll for full time M. S. (by Research) programme. It is also observed that the research output is generally poor by M. S. (by Research) students. Hence after consultations with the stakeholders, it is proposed to convert the full time M.S. (by Research) seats into an equitable number of Ph. D. seats. Considering the financial aspects, an equitable conversion factor has been arrived. Hence, 36 seats of full time M. S. (by Research) can be converted into 17 full time Ph. D seats.

The Senate approved the conversion of 36 seats of full time M. S. (by Research) programme into 17 full time Ph. D seats without any additional financial burden. However, the existing sponsored M. S. (by Research) programme shall continue without any modifications in the admission criteria.

RESOLUTION

RESOLVED THAT the conversion of 36 seats of full time M. S. (by Research) programme into 17 full time Ph. D seats without any additional financial burden be approved. However, the existing sponsored M. S. (by Research) programme shall continue without any modifications in the admission criteria.

5. Proposal submitted by Department of Mathematics to start new PG programme

The Department of Mathematics has proposed to start new a PG programme (4 semesters) in M. Sc. (Mathematics). The Department of Mathematics has qualified faculty members and offers courses to all UG and PG programmes. Similar to the M. Sc. programme run by the Departments of Physics, Chemistry and Computer Applications, it is proposed to start a new M. Sc. Programme in Mathematics by Department of Mathematics. M. Sc. Mathematics graduates are generally in demand and the programme will enhance the research output and ensure better quality candidates for the Ph. D. programme of the Department.

HoD, Department of Mathematics presented the details such as objectives and salient features of the proposed M. Sc. (Mathematics) programme.
The Senate approved the proposal in principle to start a new PG programme in M. Sc. (Mathematics) without any financial commitment to the institute.

The Senate further resolved as follows;

A detailed proposal (as per new format) shall be prepared and discussed in the Department BoS meeting. Subsequently, it shall be submitted to the PG Expert committee for scrutiny and later to the Senate for approval.

RESOLUTION
41/SENATE/2018/5

RESOLVED THAT the proposal submitted by Department of Mathematics to start a new M. Sc. (Mathematics) programme be approved in principle without any financial commitment to the institute.

FURTHER RESOLVED THAT the detailed proposal (as per new format) shall be prepared and discussed in the Department BoS meeting. Subsequently, it shall be submitted to the PG Expert committee for scrutiny and later to the Senate for approval.

6. Relaxation of residential requirement for part-time Ph. D. programme

In order to improve the quality of engineering education in the less developed states, all the CFTIs have been directed by NPIU, Ministry of HRD to encourage the faculty without Ph. D. degree to enroll for Ph. D. under sponsored part-time category at the nearest National Institute of Technology (Ref. No.: NPIU / TEQIP –III / Acad. dated 5th June 2018). The initiative is also extended to other faculty members (which are not receiving any support / aide from any source). As per this directive, it is proposed to relax the criteria for minimum residential requirement and course work requirement for the part time Ph. D. scholars as given in Table 1.
### Table 1: Criteria for Residential requirement and Course work requirement for Part Time Ph. D. scholars

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Existing</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential Requirement</strong></td>
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<td></td>
</tr>
<tr>
<td>(1) Part time (On campus)</td>
<td>- For the candidates under Part-time (On Campus) category, the minimum residential requirement is one semester.</td>
<td>1. The residential requirements shall be waived.</td>
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<tr>
<td></td>
<td></td>
<td>2. The scholar shall report to the research supervisor / DC at least on three different occasions per semester for official discussions.</td>
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<tr>
<td></td>
<td></td>
<td>3. The scholar’s visits to NIT Tiruchirappalli may be scheduled during summer / winter vacations, but only on institute working days.</td>
</tr>
<tr>
<td>(2) Part time (External)</td>
<td>- The minimum residential requirement for candidates under Part-time (External) category for undertaking course work is eight weeks.</td>
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</tr>
<tr>
<td><strong>Course work requirement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Part time (On campus)</td>
<td>- Four relevant theory courses at Master’s degree level (as recommended by the DC) shall be taken by the scholar.</td>
<td>1. The course work requirement can be considered to be fulfilled either by undertaking to study the courses at NIT Tiruchirappalli or by taking online courses offered under reputed agencies such as NPTEL, MOOCs, SWAYAM which are approved by the Doctoral Committee.</td>
</tr>
<tr>
<td></td>
<td>- Normally the course work shall be undertaken during the residential period of one semester itself.</td>
<td>2. After completion of online courses (after certification), the evaluation will be facilitated / carried out by the research supervisor / DC at NIT Tiruchirappalli.</td>
</tr>
<tr>
<td>(2) Part time (External)</td>
<td>- Four relevant theory courses at Master’s degree level (as recommended by the DC) shall be taken by the scholar.</td>
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<td></td>
<td>- The candidates may complete the course work during their mandatory stay of at least eight weeks which may be undertaken in maximum</td>
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</tbody>
</table>
of four instances of two weeks each.

- The research scholars are permitted to undertake the course work under 'directed study' mode.

The Senate discussed the matter in detail and approved the proposed changes in residential requirement and course work criteria only for the Part time (External) scholars. However, the residential requirement and course work criteria for Part time (on campus) shall follow the existing regulations without any changes. Table 2 gives the details as per the Senate approval.

Table 2 Criteria for Residential requirement and Course work requirement for Part Time Ph. D. scholars

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Existing</th>
<th>New norms as per Senate approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Requirement</td>
<td>(1) Part time (On campus)</td>
<td>No Change</td>
</tr>
<tr>
<td></td>
<td>- For the candidates under Part-time (On Campus) category, the minimum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>residential requirement is one semester.</td>
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<td></td>
<td>(2) Part time (External)</td>
<td></td>
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<tr>
<td></td>
<td>- The minimum residential requirement for candidates under Part-time</td>
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<tr>
<td></td>
<td>(External) category for undertaking course work is eight weeks.</td>
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</tr>
<tr>
<td></td>
<td>1. The residential requirements shall be waived.</td>
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<td></td>
<td>2. The scholar shall report to the research supervisor / DC at least on</td>
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<td></td>
<td>three different occasions in every semester for official discussions.</td>
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<td>3. The scholar’s visits to the department may be scheduled during</td>
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<td>summer / winter vacations, but only on institute working days.</td>
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</tr>
<tr>
<td>Course work requirement</td>
<td>(1) Part time (On campus)</td>
<td>(2) Part time (External)</td>
</tr>
<tr>
<td>-------------------------</td>
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<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td>• Four relevant theory courses at Master's degree level (as recommended by the DC) shall be taken by the scholar.</td>
<td>1. The course work requirement can be considered to be fulfilled either by undertaking to study the courses at NIT Tiruchirappalli or by taking online courses offered under reputed agencies such as NPTEL, MOOCs, SWAYAM which are approved by the Doctoral Committee.</td>
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<td></td>
<td>• Normally the course work shall be undertaken during the residential period of one semester itself.</td>
<td>2. After completion of online courses (after certification), the evaluation will be facilitated / carried out by the research supervisor / DC at NIT Tiruchirappalli.</td>
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<td></td>
<td>• The research scholars are permitted to undertake the course work under 'directed study' mode.</td>
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</tr>
</tbody>
</table>

Further, the Senate opined that regular or temporary faculty members from TEQIP funded institutes joining part time Ph. D. programme in our institute shall be considered as on par with part-time (External) category. This facilitates our institute to comply with the directive from NPIU, MHRD with reference to the part-time Ph. D. scholars from TEQIP funded institutes.

In particular, this provision shall be extended to faculty members from our mentee institute, Dr. B. R. Ambedkar Institute of Technology, Port
Blair, Andaman and Nicobar Islands, to enroll and pursue Ph. D. programme as part-time (External) research scholars in our institute.

RESOLUTION

RESOLVED THAT the proposed changes in residential requirement and course work requirement criteria shall be approved only for admission of Part time (External) scholars.

(i). The residential requirement shall be relaxed with a condition that 'the scholar shall report to the research supervisor / DC at least on three different occasions (visits) in every semester for official discussions'.

(ii). The course work requirement can be considered to be fulfilled either by undertaking to study the courses at NIT Tiruchirappalli or by taking online courses under reputed agencies which are approved by the Doctoral Committee. After completion of online courses (after certification), the evaluation will be facilitated / carried out by the research supervisor / DC at NIT Tiruchirappalli.

For the Part time (on campus) Ph.D. scholars the existing criteria for residential requirement and course work requirement shall apply without any changes.

FURTHER RESOLVED THAT that regular or temporary faculty members from TEQIP funded institutes joining part time Ph. D. programme in our institute shall be considered as on par with part-time (External) category. This facilitates our institute to comply with the directive from NPIU, MHRD with reference to the part-time Ph. D. scholars from TEQIP funded institutes.
In particular, this provision shall be extended to faculty members from our mentee institute, Dr. B. R. Ambedkar Institute of Technology, Port Blair, Andaman and Nicobar Islands, to enroll and pursue Ph. D. programme as part-time (External) research scholars in our institute.

7. Requests from Departments

(i). As per the 39th meeting of the Senate, the Senate observed that the admission to M.Sc. (Computer Science) shall be through centralized counseling process for the academic year 2019-20 onwards based on JAM score in Mathematical Statistics. Hence, the HoD of Computer Applications submitted the revised eligibility criteria for admission to M.Sc. (Computer Science) through centralized counselling process for the academic year 2019-20 onwards based on JAM score in Mathematical Statistics.

The Senate approved the revised eligibility criteria as per the details given in Table 3.

Table 3 Eligibility Criteria for admission to M. Sc. (Computer Science)

<table>
<thead>
<tr>
<th>Existing</th>
<th>Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) B.Sc. (Applied Sciences) with Mathematics and Computer Science (10+2+3 scheme) from a recognized university</td>
<td>2. BCA</td>
</tr>
<tr>
<td>c) Any Bachelor’s degree in science (10+2+3 scheme) from a recognized university with at least 6 papers in Computer Science and 2 papers in Mathematics under semester system or at least 3 papers in Computer Science and 1 paper in Mathematics under Annual System.</td>
<td></td>
</tr>
</tbody>
</table>

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RESOLUTION
41/SENATE/2018/7/

RESOLVED THAT the revised eligibility criteria for admission to M.Sc. (Computer Science) through Item (i) centralized counselling process for the academic year 2019-20 onwards based on JAM score in Mathematical Statistics be approved.

(ii). Directed study courses for Ph. D. course works

The following courses (Table 4) are recommended by the Doctoral Committees of the research scholars of various departments.

Table 4 List of directed study courses approved by Doctoral Committees

<table>
<thead>
<tr>
<th>Department</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering</td>
<td>1. Nanotechnology in Agriculture</td>
</tr>
<tr>
<td>Chemistry</td>
<td>1. Single Crystal X-ray Crystallography</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>1. Remote Sensing Application in Coastal Engineering</td>
</tr>
<tr>
<td>Engineering</td>
<td>2. Advanced Hydrology and Watershed Modeling</td>
</tr>
<tr>
<td></td>
<td>3. Simulation Modeling in Hydrology</td>
</tr>
<tr>
<td></td>
<td>4. Soil and Water Conservation and Management</td>
</tr>
<tr>
<td></td>
<td>5. Transportation Logistics</td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>1. Advanced Topics in NOSQL Databases</td>
</tr>
<tr>
<td></td>
<td>2. Security Issues for IOT Applications</td>
</tr>
<tr>
<td></td>
<td>3. Autonomous Computing at the IoT – Edge</td>
</tr>
<tr>
<td></td>
<td>4. Energy Aware Distributed Computing</td>
</tr>
<tr>
<td></td>
<td>5. High Performance Scientific Computing</td>
</tr>
<tr>
<td></td>
<td>7. Semantic Web</td>
</tr>
<tr>
<td></td>
<td>8. Introduction to Deep Learning</td>
</tr>
<tr>
<td>Electrical and Electronics Engineering</td>
<td>1. Risk Management in Power Systems</td>
</tr>
<tr>
<td></td>
<td>2. Digital Simulation of Power Systems</td>
</tr>
<tr>
<td>Electronics and Communication Engineering</td>
<td>1. Emerging Nano-Devices</td>
</tr>
<tr>
<td></td>
<td>2. FPGA Based System Design</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>1. Blockchain – Business Innovations and Applications</td>
</tr>
<tr>
<td></td>
<td>2. Political Sociology</td>
</tr>
<tr>
<td></td>
<td>3. Economics of Growth and Development</td>
</tr>
<tr>
<td></td>
<td>4. Social Entrepreneurship: Opportunities and Successful Models</td>
</tr>
<tr>
<td></td>
<td>5. Applied Social Psychology</td>
</tr>
<tr>
<td></td>
<td>6. Basics of Criminology</td>
</tr>
<tr>
<td></td>
<td>7. Game Theory: Decisions and Games</td>
</tr>
<tr>
<td></td>
<td>8. Behavioural Economics: Theory and Practice</td>
</tr>
</tbody>
</table>
The Senate approved the directed study courses and the syllabi as recommended by doctoral committees of the research scholars of various Departments with following observations (Table 5).

Table 5 Observations and directives of Senate in respect of directed study courses

<table>
<thead>
<tr>
<th>Title of the Course*</th>
<th>Observations</th>
<th>Directives of Senate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Department: Humanities and Social Sciences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Complete Writings of Michel Foucault</td>
<td>do not have structured contents</td>
<td>to be revised and resubmitted to Senate</td>
</tr>
<tr>
<td>b. Classical Sanskrit Drama</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Comparative Ethics</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| d. Introduction to machine learning | identical to the course “CA605 Machine Learning Techniques” offered by Department | • New course is not approved.  
• The Department of Humanities and |
of Computer applications for M. Tech. Data Analytics

Social Sciences to examine the contents of the course "CA605" offered by Department of Computer Applications and avail/recommend the same for the research scholars.

Note: "However as a one-time measure, these course(s) shall be permitted in the present form if any research scholars are currently undertaking the same.

In addition, a common format shall be prepared by the academic office which shall include the approval of the respective DC members and the HoD. This new format shall be circulated to all the Departments at the earliest. All the directed study courses listed in Table 4 shall be resubmitted in the new format for approval by Dean (Academic).

The academic office is directed to upload all the directed study courses (with syllabus) approved by the Senate.

RESOLUTION

41/SENATE/2018/7/ Item (ii)

RESOLVED THAT the directed study courses recommended by the Doctoral Committees be approved with suggested modifications.

FURTHER RESOLVED THAT the new format shall be perused in future for approval of directed study courses.

(iii). To consider the request from HoD, Department of Mathematics seeking an option for the Ph. D. scholars to choose the appropriate course for Research Methodology. That is, either the newly proposed course (Resolution: 40/SENATE/2018/10 dated 26th June 2018) or the
previously existing course (MA801—Research Methodology in Mathematical Science).

The Senate resolved as follows:
The Doctoral Committees of the Ph. D. scholars from the Department of Mathematics shall have an option to select the Research Methodology course as per the following.

i. Research Methodology (CC801—Research Methodology) for Engineering, Sciences and Architecture departments

or

ii. Research Methodology course (MA801—Research Methodology in Mathematical Science)

RESOLUTION
RESOLVED THAT subject to the suitability of the content, the respective Doctoral Committees of the scholars from the Department of Mathematics may recommend either Research Methodology (CC801—Research Methodology) for Engineering, Sciences and Architecture Departments

or

the one already in use (MA801—Research Methodology in Mathematical Science).

(iv). To consider the request from the HoD, Department of Management Studies, to change the term valid from the 'Valid CAT score' in the eligibility criteria to be considered for admission into Ph.D. programme in Department of Management Studies.

A Valid NET / UGC / CAT / AIMA score is the existing eligibility criteria for admission into Ph.D. programme in Department of Management Studies. The present request is to change it as "a onetime valid NET / UGC / CAT / AIMA score" to attract more candidates for Ph. D. admission in Management stream.

The Senate discussed the matter at length and observed that the proposed changes in eligibility criteria for admission into Ph. D. programme in Department of Management Studies are not clear.
Hence, the Department is directed to revise the eligibility criteria and resubmit it for approval.

RESOLUTION
RESOLVED THAT the proposed changes in eligibility criteria for admission into Ph. D. programme in Department of Management Studies are not clear. The Department is directed to revise the eligibility criteria and resubmit it for approval.

8. Request from faculty members
   (i). To consider the request from Dr. V. Karthik, Assistant Professor, Metallurgical and Materials Engineering, to continue as a joint supervisor (Co-Guide) for the Ph. D. students registered under Anna University.

   (ii). To consider the request from Dr. D. Ruben Sudhakar, Assistant Professor, Energy and Environment, to continue as a joint supervisor (Co-Guide) for the Ph. D. students registered under his guidance in NITK, Surathkal.

   (iii). To consider the request from Dr. K. Muthukumar, Professor, Chemical Engineering, to continue as a supervisor (Guide) for the Ph. D. students registered under Anna University.

   (iv). To consider the request from Dr. Rajeshwari Sridhar, Associate Professor, Computer Science and Engineering, to continue as a supervisor (Guide) and joint supervisor (Co-Guide) for the Ph. D. students registered under her guidance in College of Engineering, Guindy, Anna University.

In all the cases 8 (i) to (iv), the requests are for continuation as Guide or Co-guide for the research scholars registered under Anna University (Case 8 (i), (iii) and (iv)) and NITK, Surathkal (Case 8 (ii)).

The Senate discussed the matter at length and approved the cases 8 (i) to (iv) on the condition of zero financial commitment to the institute.

Further, the Senate resolved as follows;

A one-time relaxation shall be permitted for the newly appointed faculty to continue guiding their research scholars (admitted in the erstwhile
employer institution) on the condition of zero financial commitment to
the institute.

RESOLUTION 41/SENATE/2018/8

RESOLVED THAT the requests from faculty members (8 (i) to (iv)) to continue as Guide or Co-
guide for the students registered under Anna University (Case 8 (i), (iii) and (iv)) and NITK, Surathkal (Case 8 (ii)) be approved on the condition of zero financial commitment to the institute. Special Casual Leave (SCL) shall be permitted for attending doctoral committee meetings.

FURTHER RESOLVED THAT a one-time relaxation shall be permitted for newly appointed faculty to continue guiding their research scholars (admitted in the erstwhile employer institution) on the condition of zero financial commitment to the institute.

9. Request from students

There are no requests from students.

10. Possibility of offering online degree programmes as per MHRD request

MHRD has requested to explore the possibility of offering online degree programmes and provide the list of online degree / diploma courses to be offered by NIT, Tiruchirappalli. If feasible, these programmes shall start from 2019-20.

The Senate discussed this matter at length and opined that the possibility of offering online degree programmes by Engineering Departments is limited. However, the Senate directed the Departments of Management Studies and Humanities and Social Sciences to explore the possibility of offering online diploma / executive programmes in market driven courses.

In this context, the Senate opined that setting up a “Centre for Continuing Education” to offer online degree / diploma / executive programmes programmes is very appropriate and should be explored.

Minutes of 41st Meeting of the Senate held on 29th November 2018
RESOLUTION
41/SENATE/2018/9
RESOLVED THAT the possibility of offering online degree programmes by Engineering Departments is limited. The Departments of Management Studies and Humanities and Social Sciences are directed to explore the feasibility of offering online diploma / executive programmes in market driven courses.

FURTHER RESOLVED THAT the setting up the “Centre for Continuing Education” to offer online degree / diploma / executive programmes is very appropriate and should be explored.

Ratification Items

11. Award of provisional degree to M. S. (by Research) and Ph. D. scholars who have successfully completed the requirements for the award of the degree

The Senate ratified the award of provisional degree to M. S. (by Research) and Ph. D. scholars as per the list presented in Table 6.

Table 6 List of M. S. (by Research) and Ph. D. scholars to be awarded provisional certificate

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Roll No.</th>
<th>Name</th>
<th>Degree</th>
<th>GTC / Viva Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. S. (by Research)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>303914002</td>
<td>THAVAMANI CHARLES</td>
<td>M. S.</td>
<td>19-09-2018</td>
</tr>
<tr>
<td>2.</td>
<td>318915002</td>
<td>G NAGESWARAN</td>
<td>M. S.</td>
<td>16-10-2018</td>
</tr>
<tr>
<td>3.</td>
<td>310114051</td>
<td>RAJENDRA SINGH THAKUR</td>
<td>M. S.</td>
<td>16-11-2018</td>
</tr>
<tr>
<td>4.</td>
<td>310915001</td>
<td>BIMAL KANTA SETHI</td>
<td>M. S.</td>
<td>24-11-2018</td>
</tr>
<tr>
<td>5.</td>
<td>307115002</td>
<td>RUFZAL T A</td>
<td>M. S.</td>
<td>26-11-2018</td>
</tr>
<tr>
<td>Ph. D.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>413107002</td>
<td>SATHYA SHEELA S</td>
<td>Ph. D.</td>
<td>23-07-2018</td>
</tr>
<tr>
<td>7.</td>
<td>413112003</td>
<td>MUTHUGANESAN R</td>
<td>Ph. D.</td>
<td>10-08-2018</td>
</tr>
<tr>
<td>8.</td>
<td>406909052</td>
<td>RAJBABU K</td>
<td>Ph. D.</td>
<td>06-09-2018</td>
</tr>
<tr>
<td>9.</td>
<td>413112006</td>
<td>DHANABAL R</td>
<td>Ph. D.</td>
<td>11-09-2018</td>
</tr>
<tr>
<td>10.</td>
<td>417114001</td>
<td>D V SIVA KRISHNA RAO K</td>
<td>Ph. D.</td>
<td>14-09-2018</td>
</tr>
<tr>
<td>11.</td>
<td>407113005</td>
<td>VIJAYA PRIYA R</td>
<td>Ph. D.</td>
<td>20-09-2018</td>
</tr>
<tr>
<td>12.</td>
<td>417113001</td>
<td>RAMAKANT PANDEY</td>
<td>Ph. D.</td>
<td>20-09-2018</td>
</tr>
<tr>
<td>13.</td>
<td>414115002</td>
<td>A PALANISAMY</td>
<td>Ph. D.</td>
<td>01-10-2018</td>
</tr>
<tr>
<td>14.</td>
<td>413113004</td>
<td>MUHAMMED SHAFI P</td>
<td>Ph. D.</td>
<td>10-10-2018</td>
</tr>
<tr>
<td>15.</td>
<td>416113002</td>
<td>SWARNALATHA R</td>
<td>Ph. D.</td>
<td>22-10-2018</td>
</tr>
<tr>
<td>16.</td>
<td>408913055</td>
<td>SRINIVASARAO CHINTAGUNTA</td>
<td>Ph. D.</td>
<td>26-10-2018</td>
</tr>
</tbody>
</table>

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RESOLUTION

RESOLVED THAT the decision of award of 41/SENATE/2018/10 provisional degree to M. S. (by Research) / Ph. D. scholars be ratified.

12. Fee payment for M. Tech. Admission under sponsored category

To ratify the request of Chairperson, PG Admission committee, to exempt the fee payment for the employees of National Aerospace Laboratories (NAL), Bengaluru, by NAL and permit the sponsored employees to pay their semester fees by themselves for M. Tech. Admission under sponsored category in our institute.

As per NITT regulations for M. Tech. admission under sponsored category, the applicant should enclose the "Sponsorship Certificate" from the employer. One of the mandated condition in the certificate is "The semester fee shall be paid by the sponsoring organization and not by the candidate".

But in the sponsorship certificate issued by NAL for their employees, it was mentioned as "The semester fee shall be paid by the candidate himself". However, other mandated conditions like granting leave with full pay and allowances for the entire period of study were granted by NAL. Since, NAL is a constituent of the Council of Scientific and Industrial Research (CSIR), Government of India, the fee payment for the candidate directly by NAL may not be possible.

The Senate ratified the approval of Chairperson, senate, to exempt the fee payment for the employees of National Aerospace Laboratories (NAL), Bengaluru from the mandated condition mentioned in the "Sponsorship Certificate".

Further, this condition shall be extended for all organizations falling under Government sector, Central and State public sector organization, societies directly under Government of India and such Government / Quasi government organization and Multinational Corporations (MNCs), provided other conditions are satisfied.

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RESOLUTION
41/SENATE/2018/11

RESOLVED THAT the decision to exempt applicants from NAL from the mandated condition (fee payment) mentioned in the "Sponsorship Certificate" be ratified.

FURTHER RESOLVED THAT this condition shall be extended for all organizations falling under Government sector, Central and State public sector organization, societies directly under Government of India and such Government / Quasi government organization and Multinational Corporations (MNCs) provided other conditions are satisfied.

13. Shifting of elective course from 9th semester to 10th semester in B. Arch. programme

To ratify the request received from 9th semester students of Architecture Department to allow them to withdraw the currently registered elective subject "AR557 Architectural Criticism" and further to permit registering the same course in the 10th semester. The faculty handling the subject and the HoD have recommended the case.

The shifting of elective course "AR557 Architectural Criticism" from 9th to 10th semester will reduce the total credits in the 9th semester (24 to 22) and increase the total credit in the 10th semester (22 to 24) with no change in the total minimum prescribed credits (214) for the award of B. Arch. Degree.

*The Senate ratified shifting of the elective course from 9th semester to 10th semester in B. Arch. Programme as a one-time measure. However, if the same change is proposed for next year batch also, it should be recommended by Board of Studies.*

RESOLUTION
41/SENATE/2018/12

RESOLVED THAT the shifting of elective course from 9th semester to 10th semester in B. Arch. Programme be ratified as a one-time measure.
FURTHER RESOLVED THAT if the same change is proposed for next year batch also, it should be recommended by Board of Studies.

14. Any other item with permission of the Chairperson, Senate

There are no requests from members.

The Meeting concluded with thanks to the Chair.

Secretary, Senate

Chairperson, Senate