

Strategic Planning 2017 - 2022

Deployment



ASANSOL ENGINEERING COLLEGE
AFFILIATED TO MAULANA ABUL KALAM AZAD UNIVERSITY, KOLKATA
APPROVED BY AICTE
KANYAPUR, ASANSOL – 713 305

Strategic Plannig 2017-2022

Deployment Documents

RESEARCH AND DEVELOPMENT

| PLAN | DEPLOYMENT | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------------|-----------|-----------|-----------|-----------|-----------|-------------------------------|--------------------|-----------|----|---------|-----------|---------------------------------------|--------|-----------|-------|----------|-----------|----|----------|-----------|----|----------|
| At least 30% doctorate faculty by 2022. | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Year</th> <th style="width: 15%;">2021-2022</th> <th style="width: 15%;">2020-2021</th> <th style="width: 15%;">2019-2020</th> <th style="width: 15%;">2018-2019</th> <th style="width: 15%;">2017-2018</th> </tr> </thead> <tbody> <tr> <td>No of Faculty with PhD</td> <td style="text-align: center;">58</td> <td style="text-align: center;">57</td> <td style="text-align: center;">57</td> <td style="text-align: center;">47</td> <td style="text-align: center;">43</td> </tr> <tr> <td>Percentage of Faculty with PhD</td> <td style="text-align: center;">36.477</td> <td style="text-align: center;">34.75</td> <td style="text-align: center;">33.92</td> <td style="text-align: center;">27.81</td> <td style="text-align: center;">19.63</td> </tr> </tbody> </table> | Year | 2021-2022 | 2020-2021 | 2019-2020 | 2018-2019 | 2017-2018 | No of Faculty with PhD | 58 | 57 | 57 | 47 | 43 | Percentage of Faculty with PhD | 36.477 | 34.75 | 33.92 | 27.81 | 19.63 | | | | | |
| | Year | 2021-2022 | 2020-2021 | 2019-2020 | 2018-2019 | 2017-2018 | | | | | | | | | | | | | | | | | | |
| | No of Faculty with PhD | 58 | 57 | 57 | 47 | 43 | | | | | | | | | | | | | | | | | | |
| Percentage of Faculty with PhD | 36.477 | 34.75 | 33.92 | 27.81 | 19.63 | | | | | | | | | | | | | | | | | | | |
| Almost 36% of faculty members are having PhD | | | | | | | | | | | | | | | | | | | | | | | | |
| 25% Faculty members should have Publications in SCIE/SCOPUS/Web of Science Journal | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Year</th> <th style="width: 15%;">2021-2022</th> <th style="width: 15%;">2020-2021</th> <th style="width: 15%;">2019-2020</th> <th style="width: 15%;">2018-2019</th> <th style="width: 15%;">2017-2018</th> </tr> </thead> <tbody> <tr> <td>No of Publications</td> <td style="text-align: center;">38</td> <td style="text-align: center;">28</td> <td style="text-align: center;">23</td> <td style="text-align: center;">18</td> <td style="text-align: center;">26</td> </tr> <tr> <td>Percentage of Publication</td> <td style="text-align: center;">24</td> <td style="text-align: center;">17</td> <td style="text-align: center;">14</td> <td style="text-align: center;">11</td> <td style="text-align: center;">11</td> </tr> </tbody> </table> | Year | 2021-2022 | 2020-2021 | 2019-2020 | 2018-2019 | 2017-2018 | No of Publications | 38 | 28 | 23 | 18 | 26 | Percentage of Publication | 24 | 17 | 14 | 11 | 11 | | | | | |
| | Year | 2021-2022 | 2020-2021 | 2019-2020 | 2018-2019 | 2017-2018 | | | | | | | | | | | | | | | | | | |
| | No of Publications | 38 | 28 | 23 | 18 | 26 | | | | | | | | | | | | | | | | | | |
| Percentage of Publication | 24 | 17 | 14 | 11 | 11 | | | | | | | | | | | | | | | | | | | |
| Various departments have availed grants from various sources. | | | | | | | | | | | | | | | | | | | | | | | | |
| External Research grant should be Focused more | Various departments have availed grants from various sources. | | | | | | | | | | | | | | | | | | | | | | | |
| At least 10 Entrepreneurs at the end of 2022. | 11 no of Entrepreneurs have registered their companies with DIN Number. | | | | | | | | | | | | | | | | | | | | | | | |
| Consultancy Work should be strengthened. | <p>The institute have received 193 nos. of consultancy generating a fund of Rs.2,274,508/- Year wise breakup given as following-</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px auto;"> <thead> <tr> <th style="width: 15%;">Year</th> <th style="width: 35%;">No. of consultancies</th> <th style="width: 50%;">Total Amount (INR)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2021-2022</td> <td style="text-align: center;">53</td> <td style="text-align: right;">5,20144</td> </tr> <tr> <td style="text-align: center;">2020-2021</td> <td style="text-align: center;">19</td> <td style="text-align: right;">406780</td> </tr> <tr> <td style="text-align: center;">2019-2020</td> <td style="text-align: center;">57</td> <td style="text-align: right;">5,10,408</td> </tr> <tr> <td style="text-align: center;">2018-2019</td> <td style="text-align: center;">49</td> <td style="text-align: right;">5,08,276</td> </tr> <tr> <td style="text-align: center;">2017-2018</td> <td style="text-align: center;">15</td> <td style="text-align: right;">3,28,900</td> </tr> </tbody> </table> | | | | | | Year | No. of consultancies | Total Amount (INR) | 2021-2022 | 53 | 5,20144 | 2020-2021 | 19 | 406780 | 2019-2020 | 57 | 5,10,408 | 2018-2019 | 49 | 5,08,276 | 2017-2018 | 15 | 3,28,900 |
| Year | No. of consultancies | Total Amount (INR) | | | | | | | | | | | | | | | | | | | | | | |
| 2021-2022 | 53 | 5,20144 | | | | | | | | | | | | | | | | | | | | | | |
| 2020-2021 | 19 | 406780 | | | | | | | | | | | | | | | | | | | | | | |
| 2019-2020 | 57 | 5,10,408 | | | | | | | | | | | | | | | | | | | | | | |
| 2018-2019 | 49 | 5,08,276 | | | | | | | | | | | | | | | | | | | | | | |
| 2017-2018 | 15 | 3,28,900 | | | | | | | | | | | | | | | | | | | | | | |

| <p>Minimum 50 books / Book Chapter publication from the institutional faculty with reputed publishers by 2022.</p> | <p style="text-align: center;">Total 64 book / book chapters published</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Year</th> <th style="text-align: center;">Number</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2021-2022</td> <td style="text-align: center;">33</td> </tr> <tr> <td style="text-align: center;">2020-2021</td> <td style="text-align: center;">29</td> </tr> <tr> <td style="text-align: center;">2019-2020</td> <td style="text-align: center;">37</td> </tr> <tr> <td style="text-align: center;">2018-2019</td> <td style="text-align: center;">16</td> </tr> <tr> <td style="text-align: center;">2017-2018</td> <td style="text-align: center;">18</td> </tr> <tr> <td style="text-align: center;">Total</td> <td style="text-align: center;">133</td> </tr> </tbody> </table> | Year | Number | 2021-2022 | 33 | 2020-2021 | 29 | 2019-2020 | 37 | 2018-2019 | 16 | 2017-2018 | 18 | Total | 133 |
|---|---|------|--------|-----------|----|-----------|----|-----------|----|-----------|----|-----------|----|-------|-----|
| Year | Number | | | | | | | | | | | | | | |
| 2021-2022 | 33 | | | | | | | | | | | | | | |
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| 2019-2020 | 37 | | | | | | | | | | | | | | |
| 2018-2019 | 16 | | | | | | | | | | | | | | |
| 2017-2018 | 18 | | | | | | | | | | | | | | |
| Total | 133 | | | | | | | | | | | | | | |
| <p>Enhancing awareness of IPR among faculty members and students and filing of patents with institutional support.</p> | <p style="text-align: center;">Total 22 patents are applied & published.</p> | | | | | | | | | | | | | | |
| <p>Launching Research incentive schemes for faculty and students.</p> | <ul style="list-style-type: none"> • Seed Money is provided to encourage innovation • Incentive for publication in indexed journal and books • Reimbursement of registration fees for attending seminar, workshop, FDP, etc • Organizing seminar/workshop on Research Methodology • Organizing seminar/workshop on Intellectual Property Right • Organizing seminar/workshop on how to invite Consultancy • Incentive for Consultancy work • Incentives for Professional Body Membership: • JIS Samman for faculty and students excelling in Research activity • 100% assistance against Patent/Copyright fee • Each faculty has to complete one MOOCS course in every semester from Coursera. Course fee is entirely borne by the institute | | | | | | | | | | | | | | |
| <p>Institute to make a MOU with the academic and research organisations to increase the quality of academics and research.</p> | <p>The institute have MOUs with the following organisation to increase the quality of academics and research –</p> <ol style="list-style-type: none"> 1. Asian Institute of Technology (AIT) 2. ECAM Lyon School of Engineering, France | | | | | | | | | | | | | | |
| <p>International conference at least once per year.</p> | <p style="text-align: center;">International Conference on Emerging Trends in Engineering and Science (ETES – 2018) Remarks: Due to pandemic we could not achieve target. We will do much better.</p> | | | | | | | | | | | | | | |

TEACHING - LEARNING & EVALUATION

| PLAN | DEPLOYMENT |
|--|---|
| <p>Multiple no of FDP/PDP per year to be conducted by different departments of the institute.</p> | <p>Total number of FDP & PFP conducted by departments & institute are 30 and 10 respectively.</p> |
| <p>Implementation of the online feedback system.</p> | <p>End of every semester feedback is collected online about teaching-learning methodology & faculty, the same is analyzed and as per analysis necessary actions are taken</p> |
| <p>Strengthening OBE</p> | <ul style="list-style-type: none"> • All programs follow Outcome based Education. • CO & POs are mapped in accordance with curriculum • Unit test examinations, assignments and quizzes are mapped with CO • FDPs are organized to train the faculty about OBE • Awareness program is conducted to create awareness amongst students about OBE through Induction Program, Mentor-Mentee meet, etc. • All the COs of all courses of the curriculum are defined clearly with the CO-PO mapping to indicate its importance and included in the syllabus. • All the COs are also displayed in the corresponding laboratories and corresponding COs are also printed on each laboratory manual and issued to all students at the beginning of laboratory classes. |
| <p>Create a learner centric environment</p> | <p>The institute offers a constructive platform for students to sharpen their skills and knowledge and enhance moral values to mould their career and attitude towards right direction. All departments of AEC conduct multiple programs that stimulate creative ability of students and provide them a platform to nurture their problem-solving skills and ensure participative learning. Each department of the institute organizes technical fest apart from the institutional technical fest to showcase their technical potentiality through real-life models in the form of innovative projects. The institute also organizes cultural fest every year where students showcase their cultural diversity and talents. Students are always encouraged to take part in state level, national level as well as international level of events and competitions. The institute uses several student-centric methods for enhancing learning skills and abilities of students. Active involvements and efforts of faculty members ensure the effectiveness of the activities through adoption of the following student-centric methods. Learner Centric Teaching Learning process has been emphasised through Problem Based learning, Project Based Learning, Participatory Learning etc.</p> |
| <p>Introduction of project based learning for the skill development of the students in the curriculum</p> | <p>Project base learning has been adopted and included in curriculum as per MAKAUT Syllabus.</p> |
| <p>Adoption of Problem based and Experiential teaching learning methodology</p> | <p>Problem-based learning (PBL) is a student-centred approach in which students learn about a subject by working in groups to solve an open-ended problem. This problem is what drives the motivation and the learning. All the departments encourage students to develop and acquire problem-solving skills. In this regard, college organizes lectures and model displays on various topics, induce students to join MOOCs courses and engage them to</p> |

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|---|--|
| | <p style="text-align: center;">participate in the following problem-solving methods:</p> <ol style="list-style-type: none"> i. Simulation techniques ii. Case study iii. Prototype modelling and display iv. Project based learning v. Quiz, Extempore Group Discussion <p>Experiential learning is a methodology in which educators purposefully engage with students in direct experience and focused reflection in order to increase knowledge, develop skills, and clarifies values. All the AEC employ the following experiential learning techniques to improve creativity and understanding levels of the students. It is implemented through the following techniques:</p> <ol style="list-style-type: none"> i. Peer Assisted learning ii. Virtual lab iii. Workshop iv. Activity based learning v. Technical report writing vi. Internship vii. Industry visit viii. Demonstration by students |
| <p>Development of Question Bank</p> | <p>Question Bank has been developed. Each question is mapped with Course Outcome meeting desired Blooms Taxonomy level.</p> |
| <p>Continuous Evaluation through class test, quiz, assignment, debate etc.</p> | <p>The Continuous evaluation process is followed by the institute in line with the guidelines provided by MAKAUT which includes report writing, presentation, class test and online evaluation by the University itself. This process started from the year 2017 onwards. Before 2017 the process for continuous evaluation was based two class test that were taken internally and the marks were submitted in the MAKAUT portal.</p> <p>The evaluation process was made online from the year 2017. The DVS portal, provided by MAKAUT is the platform for online evaluation of end semester examination answer scripts.</p> <p>The answer scripts of class test are scanned by faculties for their respective subjects and the evaluation is done online.</p> <p>During lockdown period continuous evaluation and the end semester exam were conducted online. Students were providing with login id and password for MAKAUT student portal login and all information related to exam were given in that portal.</p> <p>Exam form verification is done at the college end and the students are allowed to submit the exam only after the submission of exam fee in the MAKAUT portal. After the form submission, link is given in the portal for downloading the admit card.</p> |

HUMAN RESOURCE MANAGEMENT

| PLAN | DEPLOYMENT |
|---|--|
| Health policy for all the employees of the institute by 2022 | Implemented in association with United India Insurance Company Ltd. Since 10.07.2020 |
| Conduction of Motivational and awareness talk at least once per year to enhance the work efficiency of faculty and staff members. | Various motivational talks were conducted. |
| Infrastructural support | <ul style="list-style-type: none"> • All classes of the institute are ICT Enabled classroom • Six smart classrooms • Plagiarism check software is procured • E vehicle (E rickshaw and E cycle) • Rain water harvesting • Smart Lights |
| Enhance number of Faculty Development Programs | Percentage Faculty participation in FDP has increased over the year as per the following- 2021-2022-93.71 2020-2021-90.24 2019-2020-88.09 2018-2019-84.61 2017-2018-82.19 |

LIBRARY, ICT AND PHYSICAL INFRASTRUCTURE / INSTRUMENTATION

| PLAN | DEPLOYMENT |
|--|--|
| All ICT-enabled classrooms by 2022. | All our classrooms are ICT enabled. We also have 6 nos. of Smart Classrooms |
| Smart classroom with smart board facility for each department. | Each Department has this facility. |
| Video Lecture Bank for both Theory & Lab. | More than 10,000 video lectures prepared and made available to the students. |

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| Implementation of Divyang Friendly Campus. | 1.Lift facility 2. Ramp facility 3.Divyang friendly pathways & toilet 4. Divyang friendly male and female toilet 5.Wheelchair available |
| NDLI membership. | We have the NDLI membership. |
| Availability of e-Books and e-journals. | Adequate reference books, e-books(Springer) and e-journals(IEEE ASPP) are available |

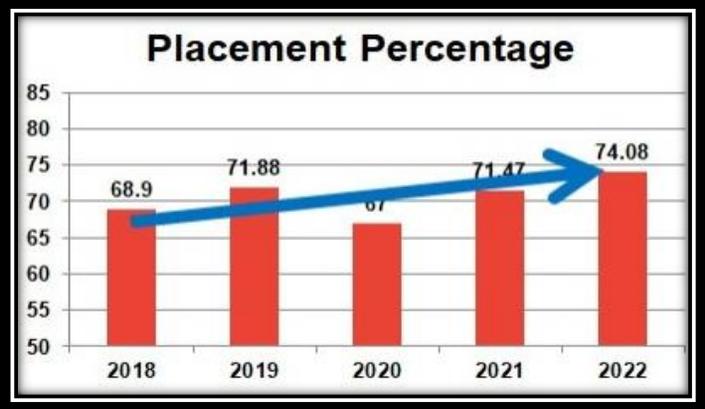
INDUSTRY INTERACTION / COLLABORATION

| PLAN | DEPLOYMENT |
|---|--|
| MOU with different industries to be increased. | From 2018-2022, 31 nos. of Memorandum of Understanding have been signed with the industry. Various events are conducted jointly. |
| Invited talk on recent trends in a relevant field by industry experts. | It is conducted throughout the year. From 2017-18 to 2021-22, 27 nos. of talk is organized. |
| Collaborative UG/PG final year project with Industry. | Already it is started. |

ACCREDITATION & RANKING

| PLAN | DEPLOYMENT |
|---|--|
| NBA Accreditation of 50% eligible UG program by 2022 | 3 Programs already NBA Accredited viz. w.e.f 1 st July 2022. B. Tech in CSE B. Tech in ECE B. Tech in ME |
| International accreditation/ Ranking | The institution is working in this aspect |
| NIRF Ranking | Working on this aspect |
| Introduction of Emerging Programs | B. Tech in CSBS & AIML introduced. |

OUTCOME OF STUDENTS

| PLAN | DEPLOYMENT | | | | | | | | | | | | |
|---|---|------|----------------------|------|-------|------|-------|------|-------|------|-------|------|-------|
| Beyond curriculum training on different emerging topics to enhance employability skills. | Beyond Curriculum Training (Value Added Courses) on emerging topics are organised in every semester for all the students on the basis of feedback collected. | | | | | | | | | | | | |
| Participation in national and international competitions. | Students participated in different national and international competitions like Hackathon, Chhatra Viswkarma etc and received awards. | | | | | | | | | | | | |
| Increase the number of participation in MOOCs to enhance skill level of students (Fee paid by Institute) | 1 course from Coursera per semester introduced for students and as well as faculty members. Course fees paid by the institute. | | | | | | | | | | | | |
| Aptitude and soft skill training to enhance their skills. | Aptitude & Soft Skill training have been arranged for the students from 2 nd year onwards. | | | | | | | | | | | | |
| 70% placement in each Department by 2022. | <p>Placement Details from 2017-2018 to 2021-2022 is as following-</p> <table border="1" data-bbox="984 797 1514 1024"> <thead> <tr> <th>Year</th> <th>Placement Percentage</th> </tr> </thead> <tbody> <tr> <td>2022</td> <td>74.08</td> </tr> <tr> <td>2021</td> <td>71.47</td> </tr> <tr> <td>2020</td> <td>67.00</td> </tr> <tr> <td>2019</td> <td>71.88</td> </tr> <tr> <td>2018</td> <td>68.90</td> </tr> </tbody> </table>  | Year | Placement Percentage | 2022 | 74.08 | 2021 | 71.47 | 2020 | 67.00 | 2019 | 71.88 | 2018 | 68.90 |
| Year | Placement Percentage | | | | | | | | | | | | |
| 2022 | 74.08 | | | | | | | | | | | | |
| 2021 | 71.47 | | | | | | | | | | | | |
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