



YEARLY STATUS REPORT - 2020-2021

Part A	
Data of the Institution	
1.Name of the Institution	Madhav Institute of Technology & Science
• Name of the Head of the institution	Dr. R.K. Pandit
• Designation	Director
• Does the institution function from its own campus?	Yes
• Phone No. of the Principal	07512409354
• Alternate phone No.	07512409300
• Mobile No. (Principal)	9826254902
• Registered e-mail ID (Principal)	director@mitsgwalior.in
• Address	Gola Ka Mandir
• City/Town	Gwalior
• State/UT	Madhya Pradesh
• Pin Code	474005
2.Institutional status	
• Autonomous Status (Provide the date of conferment of Autonomy)	12/09/2017
• Type of Institution	Co-education
• Location	Urban

• Financial Status	Grants-in aid				
• Name of the IQAC Co-ordinator/Director	Dr. Pratesh Jayaswal				
• Phone No.	07512409300				
• Mobile No:	9826561725				
• IQAC e-mail ID	iqac@mitsgwalior.in				
3.Website address (Web link of the AQAR (Previous Academic Year))	https://www.mitsgwalior.in/IQAC/AQAR%20Report%2016%20June%202021.pdf				
4.Was the Academic Calendar prepared for that year?	Yes				
• if yes, whether it is uploaded in the Institutional website Web link:	http://mitsgwalior.in/ACalendar.php				
5.Accreditation Details					
Cycle	Grade	CGPA	Year of Accreditation	Validity from	Validity to
Cycle 1	B++	2.86	2017	12/09/2017	11/09/2022
6.Date of Establishment of IQAC			27/12/2016		
7.Provide the list of Special Status conferred by Central and/or State Government on the Institution/Department/Faculty/School (UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC, etc.)?					
Institution/ Department/Faculty/School	Scheme	Funding Agency	Year of Award with Duration	Amount	
Institutional 1	TEQIP-III	NPIU/MHRD, New Delhi	11/09/2017	165000000.00	
Institutional 1	DST-FIST (Level 0)	DST, New Delhi	16/08/2019	4940000	
8.Provide details regarding the composition of the IQAC:					
• Upload the latest notification regarding the composition of the IQAC by the HEI	View File				

9.No. of IQAC meetings held during the year	4	
<ul style="list-style-type: none"> Were the minutes of IQAC meeting(s) and compliance to the decisions taken uploaded on the institutional website? 	Yes	
<ul style="list-style-type: none"> If No, please upload the minutes of the meeting(s) and Action Taken Report 	No File Uploaded	
10.Did IQAC receive funding from any funding agency to support its activities during the year?	Yes	
<ul style="list-style-type: none"> If yes, mention the amount 	41648000	
11.Significant contributions made by IQAC during the current year (maximum five bullets)		
<p>? Development of Administrative Efficiency Index: o A mechanism for computing a numeric 'Administrative Efficiency Index (AEI)' was developed and implemented w.e.f January 2020 to rate the administrative performance of the various departments on a scale of 10. The idea behind the development of a numeric index is to encourage timely completion and submission of documents/reports/information etc. by the various departments and cells to ensure:</p> <ul style="list-style-type: none"> Timely completion of all routine academic & other student activities such as curriculum development, alumni & industry connect, student counselling, mentoring, assessments, various feedbacks & their analysis, PTM etc. Timely submission of impact analysis reports/ATR/CO-PO attainments etc. Overall quality improvement for making students industry ready Improvement of Institute Level Documentation required for accreditation To bring overall efficiency in routine academic and quality improvement processes (avoiding the need for constant reminders and notices) ? <p>Innovative Research Scheme launched: o To encourage research activities in the institute the Innovative Research Scheme was launched last year. This year an amount of Rs. 18.84 Lacs has been recommended to 12 faculty members (on the basis of recommendations of the research committee, which evaluated the research proposals after presentation and discussions with faculty members) as seed money for starting new research in different areas as proposed by them in their research proposals. o It is expected that the faculty members will gain experience of handling research projects and they will be able to get support from the central funding agencies/industries for continuing their work further. ? Ranking</p>		

student clubs/chapters on the basis of performance o Mechanism with detailed guidelines was prepared by the student development cell (SDC) for ranking the performance of the 50 plus student clubs and chapters operational in the institute. The idea is to encourage the activities of clubs through monetary awards and by generating a healthy competition among them. ? Promoting a culture of meritocracy in the institute o A mechanism was proposed to promote a culture of meritocracy over mediocrity and to identify and encourage good performers, the ones who take ownership and initiative to start new practices, and/or excel in the existing activities. The IQAC decided to reward such persons on the basis of recommendations/nomination from the concerned heads. ? Implementation of credit transfer through MOOCs o The 'credit transfer from MOOCs' policy was already in place (approved by the academic council and affiliating university). Credits were transferred from MOOCs in June 2020.

12. Plan of action chalked out by IQAC at the beginning of the academic year towards quality enhancement and the outcome achieved by the end of the academic year:

Plan of Action	Achievements/Outcomes
<p>Advance Academic Session in Virtual Mode for UG & PG Classes and mechanism adopted for its smooth conduction</p>	<p>? The new session was started without any delay, in a timely manner from 15th July 2020 even though the previous semester exams and results were delayed due to COVID-19. ? The advance semester for all UG & PG classes (except I year) was started from 15th July 2020 in online mode and the detailed Action Plan for Digital Teaching-Learning including conduction of (i) Theory Classes (ii) Practical Classes (iii) Weekly evaluation & (iv) Mid-semester evaluation, all in digital mode was uploaded. ? The institute sincerely tried to address the needs of students from different socio-economic strata and for those who are unable to attend regular online classes, 01 additional class was conducted every week. ? The guidelines for digital teaching learning were prepared and circulated well in advance on 26th June 2020. ? The institute faculty demonstrated leadership by conducting virtual workshop during 09th July to 11th July 2020 on "Effective Use of e-learning Platforms for Teaching & e-content Developments Tools" for faculty members of different Government Polytechnic & Engineering Institutes of Madhya Pradesh, in collaboration with Directorate of Technical Education, Madhya Pradesh under IQAC. ? An in-house workshop on "Digital Teaching-Learning & Evaluation" was also conducted on 25th July 2020 for the faculty members of</p>

	<p>the institute before the commencement of the virtual semester.</p>
<p>Flexible Curriculum</p>	<p>? The Flexible Curriculum was implemented for the 2017-2018 admitted batch. ? The first batch of students graduated in May-June 2021. ? Every yea/semester some new provisions came into existence; suitable implementation mechanism was made, discussed in IQAC and then brought into practice, all in a timely manner. The difficulties/hindrances due to COVID-19, were addressed through a proper mechanism. ? The provisions this year were (i) DEs, OCs and additional courses for minor specialization/Honors in parent discipline were offered for credit transfer through MOOCs. (ii) Full VIII semester duration dedicated for Project/Internship and (iii) Professional Development Course (PDC) at VIII semester giving weightage to extra-co-curricular activities ? 12 courses were developed and offered by the institute faculty for OC-2 and 13 courses for OC-3, both at the VII semester.</p>
<p>Making students Self-learners through on-line MOOC courses</p>	<p>? NPTEL Chapter registrations of students and faculty are continuously increasing ? The SWAYAM/NPTEL local chapter of MITS ranked 13th in the list of 100 top ranking chapters issued by NPTEL for year 2020. https://drive.google.com/file/d/1UwcKItXwK5NOMqRss3S3k8j7Dfmhbm4Q/view ? There were total 7049 courses in which 2479 students registered;</p>

	<p>in spite of COVID lockdown, 1439 students appeared for the proctored test; The performance of the students was very good. 1195 students passed and 60 were declared course toppers. ? There were total 600 courses in which 117 faculty registered; in spite of COVID lockdown, 60 faculty members appeared for the proctored test; 41 passed and 02 were declared course toppers.</p>
<p>Initiative taken for recruitment of regular faculty & conduction of "Faculty Induction Programme (FIP)" for the newly recruited faculty members</p>	<p>? During this year recruitment drive was strengthened and 41 new (regular/ permanent) faculty members were appointed in two phases. ? The initiative to conduct FIP was taken for the first time. Earlier a weeklong event was planned but due to the Covid situation, only a two-day programme was conducted to apprise the new faculty about all the practices being followed in the institute. There were sessions on Teaching-learning, OBE, NEP-2020, NAAC accreditation, examination reforms, NIRF ranking, Flexible Curriculum and role of IQAC for quality assurance in the institute. ? FIP-I was conducted for the 24 newly joined faculty members on 9-10, July 2021 and was attended by faculty members ? FIP-II was conducted for the 17 newly joined faculty members on 11-12, November 2021</p>
<p>Ensuring faculty preparedness and training for digital teaching-learning-evaluation</p>	<p>? Conduction of one day in-house online workshop on "Digital Teaching-Learning & Evaluation" for the institute faculty. Following are the key points about online workshop on</p>

"Digital Teaching-Learning & Evaluation: • The IQAC of the Institute organized a one-day online workshop on 25.07.2020 on "Digital Teaching-Learning & Evaluation". In view of the prevailing COVID-19 situation, the faculty members of the Institute are conducting online teaching-learning activities successfully w.e.f. March 2020, further, this workshop was organized to share the best practices for the effective conduction of digital teaching through Interactive sessions delivered by Prof. R.R. Singh Makwana, Prof. Praveen Bansal & Shri Atul Chauhan. • Discussion was on the following key points along with a Question/Answer Session: ? Conduction of on-line interactive classes using available platforms ? Comparison of available platforms ? Recording & uploading lecture videos ? Do's & Don'ts (Effective use of Zoom, Google Meet, uploading onYoutube and google drive, with link on MOODLE) ? Conduction of Virtual Lab ? Use of Digital writing pad ? Conduction of interactive classes, attendance on zoom ? Additional features for ensuring learner attentiveness ? Use of Moodle: ? A virtual trip ? How to Enroll Students in course ? Students Attendance System ? Uploading Study material, URL etc. ? Smart Quiz making ? Generation of Grade Sheet ? The workshop was attended by 132 faculty members. After the sessions an online quiz was conducted and feedback was

	<p>collected from the participants ? Golden badge was given to 80 faculty members based on their performance ? The feedback was given by 93 out of the 132 faculty members.</p>
<p>Student Feedback on virtual teaching-learning during this semester (July- August 2020) Appreciation letters to faculty based on digital teaching feedback from students during the Covid-19 lockdown period</p>	<p>? The online session started from July 15th 2020 for II year to Final year students. The first student feedback was collected on 24th & 25th August for which the format was also modified. ? The format was designed to map with the Digital Teaching-Learning Action Plan of the institute. ? Thirty-seven (37) faculty members received appreciation letters based on their FFI score, i.e if the FFI was greater than 4 out of 5 and the response rate was not less than about 50 %. The detailed report was presented to the IQAC in meeting on 11th December 2020 as Agenda Item 10. ? Based on the first & second feedback reports, of July-December 2020 semester, for classes other than first year, appreciation letters were given to 10 faculty members for 13 courses. ? Out of the 80 faculty members involved in teaching the first year students 38 faculty members (47.5%) received appreciation letters. ? The average response (student participation in the feedback process) for UG was 69.49 and for PG it was 63.895 and the overall average was 65.76% ? First year II Semester I Feedback, 19th & 20th May 2021: Out of the 74 faculty members involved in teaching the first year students 38 faculty members</p>

(36.5%) received appreciation (FFI greater than 4 out of 5) and 63.5% faculty were found to be satisfactory. The detailed report was presented to the IQAC in meeting on 25th June 2021 as Agenda Item 03.

Mechanism adopted for weekly monitoring of the virtual classes

? The online classes (theory, practical, projects, seminars etc.) are being conducted using zoom/G-meet etc. according to the "Action Plan for Digital-Teaching Learning" ? Monitoring is being done on a weekly basis to ensure the effective compliance of the action plan drafted for the smooth conduction of the virtual academic session. ? Weekly information is being compiled through excel sheets. The following information is collected department wise & faculty wise on a weekly basis:

- (i) Theory classes assigned, conducted, recorded, and shared to students (along with the link)
- (ii) Number of students present in theory classes
- (iii) Practical classes assigned, conducted, recorded, and shared to students (along with the link)
- (iv) Number of students present in practical classes
- (v) Number of quizzes conducted
- (vi) Number of MCQs given in the quizzes
- (vii) Number of assignments given to students
- (viii) Number of questions in assignments
- (ix) Number additional classes conducted
- (x) Number of students present in additional classes

? The departmentwise summary is being circulated to all concerned for

	information and to initiate corrective measures where required.
Initiatives taken to facilitate student learning during the difficult Covid-19 times through student orientation & academic counselling	? On-line orientation session was conducted at each department in the beginning of the session on 15th July 2020. The broad topics discussed through power point presentation were schemes/courses/Evaluation process, OBE, remedial mechanism, SWAYAM/NPTEL courses, provisions of flexible curriculum, Importance of quality improvement feedback (CO/PO/faculty/curriculum feedback), tips for faring well in examinations, career opportunities/ how to prepare for GATE, Importance of taking part in technical activities outside institute, efforts/provisions made by institute for the holistic, overall development like Students Chapter & Clubs etc. ? A zoom meeting of allUG class coordinators of Civil, Mechanical, Electrical, Electronics & CSE/IT departments with the Dean Academics on 6th August 2020 from 4.30 PM to 6.00 PM. ? The class coordinators instructed to conduct a virtual counselling session for students to find out their concerns during the present digital teaching-learning era due to COVID-19. The Dean Academics presented the
Student profiling on the basis of their digital learning behavior during the Virtual Semester	? The class coordinators and concerning faculty members classified all UG students into 3 categories; (The

classification was based on the digital presence & capabilities only) ? The fast digital learners were those students who were found to attend almost all interactive classes (2-3 per week per course), appear for all weekly quizzes and were submitting all fortnightly assignments regularly. ? The medium level digital learners were those students who are attending at least one online class per course per week, and submitting assignments regularly and appearing for quizzes (at least 50% of assigned/conducted).(irrespective of marks obtained) ? The slow digital learners were those students who are not attending any online classes or attending less than 10% of classes, and not submitting assignments/quizzes or submitting/appearing for less than 10 % of assigned/conducted. (irrespective of marks obtained) ? The slow digital learners were encouraged to attend at least the additional classes(01 per week per course) and submit assignments, appear for quizzes. If they do so, their attendance is counted and they can progress and move along with the academic session. ? During the counselling sessions the class coordinators noted down the student queries and submitted these along with their reports, ? These FAQs regarding Academics, Exams, Fees, Placements, Internships etc. collected based on queries of students communicated through

	<p>the class coordinators, were addressed and posted on the MOODLE for ready reference to the students and faculty.</p>
<p>Institute signed MoU to be a Nodal Center of Virtual Labs of IIT Delhi</p>	<p>? The Virtual Labs team of IIT Delhi has designated Madhav Institute of Technology & Science, Gwalior as a Nodal Center of Virtual Labs of IIT Delhi on 21st July 2020. ? An awareness workshop for the faculty members of the Institute to explore the benefits of IIT Delhi virtual labs will be organized in virtual mode on 22nd August 2020 by the Virtual Labs team of IIT Delhi. ? Total 119 faculty members & 302 students attended the workshop. ? The mentors were Mr. Tanmay Das, Mr. Prateek Sharma & Mr. Shivam Sundaram.</p>
<p>Examination Reforms: Guidelines for conducting evaluation of courses using (i) "Assignment plus oral" mode (ii) "pen and paper mode"</p>	<p>Detailed guidelines were prepared and circulated for these two evaluation models and the same were presented in IQAC meeting vide agenda item 8(A).</p>
<p>Constitution of course committees for curriculum development</p>	<p>? The HoDs were instructed to constitute one track-wise "course committee" for "each course track in the curriculum". [Ref: Notice No DA\MP\21\1297 dated 15.4.2021] ? Each course committee consists of the HoD, the OBE coordinators, course faculty and other related faculty. ? Each committee was required to handle 4-5 courses of similar type from one track as categorized by the department. ? The duties of the 'Course Committee' in relation to the assigned courses are: • assuring quality improvement in</p>

	<p>teaching-learning-evaluation for the assigned courses • review of CO framing (COs will be framed by the course faculty) • review of direct/indirect CO attainments • collection & analysis of CO feedback from students • analysis of stakeholder (alumni, employer, parent) feedback on curriculum • preparing ATR based on the above; suggesting syllabi revision, & suggestions for actions to be taken for curriculum revision/proposing new courses/curriculum development • Compilation of all documents and presenting in BoS meeting</p>
<p>Paper presentation by Final year B.E. students from projects completed during the Jan-June 2020</p>	<p>? Publication (in journal or conference proceeding OR presentation of paper in a conference) of one paper out of the major project is a mandatory requirement for acceptance of the final report. (Notice no DA/MP/1121 dated 12.02.2020) ? During the COVID-19 all the projects were completed in online mode. The following is the department-wise status of paper presentation/publication: ? The B E Projeet paper presentation details are available on department webpage and reports after plagiarism check using turnitin are uploaded on the MOODLE repository.</p>
<p>Conduction of AICTE sponsored Second International Conference of ICSISCET series (In collaboration with DTU, Delhi)</p>	<p>Over 102 papers were received; 69 papers were accepted after rigorous review for presentation under 4 tracks; 46 were selected for publication; 08 expert</p>

sessions were conducted; Six paper presentation sessions were; 18 experts contributed as sessions chairs. ? The Second International Conference on Sustainable and Innovative Solutions for Current Challenges in Engineering & Technology (ICSISCET-2020) was conducted in virtual mode on 18th& 19th December 2020. ? The conference received 102 papers through the 'easy chair conference management system'. ? The papers were checked for plagiarism using the standard Turnitin software before sending the papers for review. ? After a rigorous review, 69 papers were accepted for presentation under 4 tracks in 8 paper presentation sessions; 38 papers were selected for publication ? There were 08 invited technical sessions; 18 experts from diverse fields of engineering, technology and science participated in the conference as experts and session chairs. ? The keynote was delivered by Prof. K. K. Aggarwal, Chairman NBA. The other experts who participated were Dr. P.N. Suganthan of Nanyang Technological University, Singapore, Dr. AnuradhaRanasinghe of Liverpool Hope University, United Kingdom, Dr. Swagatam Das of Indian Statistical Institute, Kolkata, West Bengal, India, Dr. Carlos A. CoelloCoello of CINVESTAV-IPN, Mexico, Dr. R.V. Rao of NIT, Surat, Gujrat, India, Dr. Sumantra Dutta Roy of IIT, Delhi, India, Dr. J.C. Bansal of South Asian University, New

	<p>Delhi, India, and Dr. B. K. Panigrahi of IIT, Delhi, India. ? Proceedings of the conference are published by Springer book Series</p>
<p>Initiative taken for establishing an open dialogue with the first year students</p>	<p>? Online "Students' Open Dialogue Session" for the first year students was conducted with the Director of the Institute, Dr. R. K. Pandit, to discuss various Academic & Administrative issues during 19th April to 12th May 2021. [Ref: Notice no. 74, 75, 76 and 805 dated 16th April, 23rd April, 29th April and 7th May 2021] ? All the student issues were personally communicated to the concerned HoDs/faculty members, personally, by the Director himself. This initiative was taken looking at the horrifying COVID situation in the city and the state during April-May 2021. ? The report was presented in IQAC meeting dated 25th June 2021 vide Item 4.</p>
<p>Student counselling, grievance redressing & support</p>	<p>? The Dean Academics has apprised the house about following activities conducted under student Counselling, grievance redressing & support system. ? The issues raised by students were solved by the faculty coordinators during the meetings and the report was submitted to the office of the Dean Academics. ? The questions raised by the students were compiled by the Dean Academics office and the answers to those questions were uploaded on the MOODLE under the heading 'FAQs by First Year Students'. 20 such</p>

FAQs are listed below. ? Similar initiative was taken by the institute for the senior students also and reported in the IQAC meeting on 29th August 2020 vide Item 5. FAQs by Newly Admitted First Year Students (Queries of students communicated through the class coordinators) 1. Library books availability Ans: All class coordinators please inform students that a request for books can be sent to the library on e mail. The Central Library has taken initiative to send scanned & e-books to desiring students on e-mail. On request of first year students, the library timings have been extended till 6.0 pm with effect from 15th January 2021. 2. Mode of examination for Engineering Graphics paper Ans: The mode of examination will be communicated to the students by the concerned faculty through a separate communication. 3. Regarding the day when offline classes will be conducted. Ans: The decision regarding this will be taken after considering all aspects, based on feedback from stakeholders after a review by the administration. 4. Sometimes the students are not able to join classes when their number increases. Ans: Appropriate action has already been taken in this regard. 5. Some students have not been able to register on MOODLE yet. Ans: The concerned coordinators must take cognizance of this and identify students who have not registered on MOODLE or IMS yet. Required

action must be taken immediately. In case of any issues, the students may send their queries to ims@mitsgwalior.in or moodle@mitsgwalior.in. 6. Some faculty members have not yet created their course page on MOODLE. Ans: The HoDs must identify such faculty members, if any and immediately resolve the matter. The digital teaching planning being followed at the institute needs all the faculty members and students to be very active on MOODLE. 7. Some students want MOODLE training. Ans: The MOODLE administrator Mr. Atul Chauhan has demonstrated the use of MOODLE during the induction programme and the videos are available. On request, briefing sessions were arranged in Electronics and some other departments also. The same can be repeated at the request of class coordinators. 8. Some students are facing problem in submitting assignments on MOODLE. Ans: The coordinators and concerned faculty can find out the problems faced by students and take corrective actions/measures. 9. Sometimes the link of some recorded lectures are not shared with the students due to which they are not able to watch later. Ans: As part of the digital teaching action plan, it is absolutely necessary that the links of recorded videos and PPTs/notes etc must be uploaded on the SAME day on the MOODLE. Faculty members must please take note of this. 10. Laboratory sessions conducted through virtual mode

are not properly understood by the students. Ans: Due to COVID guidelines, the students are not getting exposed to the latest facilities available in the labs. As a second best option, the institute is managing the laboratory teaching through virtual/recorded lab sessions. Our institute is a nodal centre of 'Virtual labs, IIT Delhi'. The conduction of laboratories can be further improved/enhanced by using these virtual experiments. The virtual laboratory experiments must be recorded in such a manner that the salient points are captured properly. In case of queries by students, specific solutions/answers must be provided by the concerned faculty and technical staff to make the conduction of virtual laboratories more meaningful. Students will be given an opportunity to conduct experiments in the institute laboratories when the institute reopens for students. Special laboratory sessions will be conducted so that students get practical exposure in laboratories. 11. Faculty are taking classes using different platforms like G-meet, go to meeting, zoom etc. This creates problem for the students. Ans: Yes, that's how things are being managed at present due to a number of practical difficulties being faced by one and all due to COVID situation. However, all the faculty members are trying their best to engage classes with whatever resources are

available at that moment. 12. In 'go to meeting' a lot of data of students is being consumed. Ans: Yes, this point has been noted and due care is being taken by the faculty to find the best possible solution, under these circumstances. 13. Due to internet failure classes sometimes get rescheduled/disturbed. Ans: Due to heavy load on data services due to COVID all over the globe the frequency of network failures has increased. The students and faculty are requested to bear with it for the time being, soon better solutions will be available. 14. Quiz must be short. time allotment should be justified. Practice questions should be added separately. Ans: Yes, quizzes can be more in number to test the student learning continuously, but not too many questions. 15. Some students have doubts about how to submit laboratory reports and assessment of lab courses. Ans: The concerned faculty will address this issue as it will vary from department to department and lab to lab. 16. Students want on special session to be organized about SWAYAM/NPTEL and a virtual tour of NPTEL. Ans: This must be arranged/scheduled by SWAYAM coordinators/SWAYAM manager for all departments separately. In some departments, separate sessions have already been conducted by the SWAYAM manager to create awareness about this platform. 17. Quiz schedule

should be announced by the faculty in advance, preferably on Friday & Saturday. Ans: Yes, some pre-announced schedule can be followed so that students will also be ready to take the quiz. However, sometimes surprise quiz can also be taken to check alertness of students.

18. The timings of quizzes/additional classes sometimes clash. Ans: Prior scheduling of these activities will avoid clashing. At the coordinator & faculty level, efforts are required to avoid this issue. 19. Make class representatives; one or two boys and girls Ans: Class coordinators, with the permission of HoDs can take a call on this issue and fix the mechanism for selection of these representatives and the what duties & responsibilities will be assigned to them. 20. No additional classes should be scheduled on Saturdays and Sundays. Ans: As per the Digital Teaching Plan of the institute every week 01 additional class per course is to be scheduled to facilitate and interact with those who may not be able to take all regular classes due to data and other issues. Students may have many other issues also on day-to-day basis. The class coordinators must be approached for the solution of these issues. The class coordinator will resolve the issues with the help of faculty, HoD and others as needed. Summary of meeting with Lateral Entry Students ? The Lateral Entry students who

	<p>are from different Diploma Steams were admitted in the III Semester of various UG programmes. ? Due to COVID situation, their admissions got delayed. ? The class coordinators and faculty of the departments helped them to cope up with studies by providing them links of recorded classes. ? The students were also motivated to attend the Additional Classes. ? Each department conducted separate meetings with these Lateral Entry students</p>
<p>Induction programme in virtual mode for the first year students</p>	<p>? The Induction Programme (Utthan-2020) for the first year students of the 63rd Batch of the institute commenced (in view of prevailing COVID-19 conditions), in virtual mode from 1st to 5th December 2020 as per following details: ? All the first year students were enrolled on a newly created</p>
<p>Initiatives taken for gender sensitization</p>	<p>? One-day Online Workshop on "GENDER EQUALITY AND WOMEN SAFETY" under TEQIP III on 10th July 2020. Though a large number of girls (133) had initially registered for the workshop, only 33 finally attended. The event was coordinated by Dr. Anshu Chaturvedi, Chairperson, Girls Grievance Cell. The session was conducted by Mrs. Breeze Tripathi, Self Defence Trainer & Social Activist. ? The event was conducted as per MHRD letter F.No17-4/2020-U.5. dated 1st June, 2020 & UGC letter no F-No.-11-6/2020(GS) dated 25th June 2020 ? The Girls Grievance</p>

Cell organized an online poster making competition during the pandemic on Naari-the Aadi Shakti). The e-certificates were given to the winners and participants. A meeting of the cell was held on 23.11.2020 in which along with the further planning, the rest of the members of the cell were briefed about the safety measures and precautions to be taken. Committee members were also briefed about Leelavati Award as announced by AICTE. Suggestions were taken from faculty members regarding the activities to be carried out in this respect. A meeting of the cell was held on 25.01.2021. The process to select new Gender warriors was discussed with members. Interested students filled the google forms. After scrutiny of these forms 80 students were called for online interview. Among these around 40 students qualified for becoming Gender Warriors. These Gender Warriors were then trained by expert Ms. Prerna Priya, Faculty at SoS in Lifelong Extension Education and Social Work, Jiwanji University, Gwalior in an on-line workshop on 27th February 2021.

Activities conducted for quality improvement

The Dean (Academics) of the Institute has appraised the house regarding following activities, which was conducted for the quality improvement in various teaching-learning, professional development approaches for faculty & students:

- Interactive Webinar

<p>Initiatives taken for the society during the COVID Second Wave</p>	<p>on</p> <p>? Free vaccination drive was organized at MITS in collaboration with Rotary Club & MDP Foundation, Gwalior in the campus on 20th April 2021; 46 people were vaccinated. ? Free Health Camp was organized on 10th March 2021 in collaboration with Birla Hospital, Gwalior. 14 doctors examined 207 people. Ayushyaman card was made for 19 people. ? More than 2000 masks were distributed, oxygen extraction units (02 numbers) donated to the local administration ? Under the MITS Initiatives towards Social Responsibilities during pandemic. during 10th May to 13th June 2021 every day from 8.0 AM to 9.0 AM Pranayama, Meditation and other exercises were conducted online in collaboration with different agencies and experts. ? Yoga & Pranayama Sessions: 35 nos for 374 participants ? Counselling Sessions: 05 nos for 184 counselees ? Support was provided by MITS staff and volunteers to 23 persons desperately in need of Bed, Ventilators, Medical facility and Oxygen The report was presented in IQAC meeting dated 25th June 2021 vide Item 6.</p>
<p>13. Was the AQAR placed before the statutory body?</p>	<p>Yes</p>
<ul style="list-style-type: none"> Name of the statutory body 	

Name of the statutory body	Date of meeting(s)
Executive Committee of the Board of Governors	16/04/2021
14. Was the institutional data submitted to AISHE ?	Yes
<ul style="list-style-type: none"> Year 	
Year	Date of Submission
01/07/2020	02/02/2022
Extended Profile	
1. Programme	
1.1 Number of programmes offered during the year:	25
File Description	Documents
Institutional Data in Prescribed Format	View File
2. Student	
2.1 Total number of students during the year:	4352
File Description	Documents
Institutional data in Prescribed format	View File
2.2 Number of outgoing / final year students during the year:	948
File Description	Documents
Institutional Data in Prescribed Format	View File
2.3 Number of students who appeared for the examinations conducted	8837

by the institution during the year:	
File Description	Documents
Institutional Data in Prescribed Format	View File
3.Academic	
3.1 Number of courses in all programmes during the year:	722
File Description	Documents
Institutional Data in Prescribed Format	View File
3.2 Number of full-time teachers during the year:	210
File Description	Documents
Institutional Data in Prescribed Format	View File
3.3 Number of sanctioned posts for the year:	227
4.Institution	
4.1 Number of seats earmarked for reserved categories as per GOI/State Government during the year:	859
4.2 Total number of Classrooms and Seminar halls	50
4.3 Total number of computers on campus for academic purposes	1235
4.4 Total expenditure, excluding salary, during the year (INR in Lakhs):	54845595
Part B	

CURRICULAR ASPECTS**1.1 - Curriculum Design and Development**

1.1.1 - Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which are reflected in Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) of the various Programmes offered by the Institution.

The Institute has the systematic process for development, revision and implementation of curriculum of all the departments through Board of Studies (BoS).

The BoS of each department oversees the relevancy and requirements of any course in the programmes that the department offers.

The BoS is conducted twice every year; it revises courses if any needs revision considering the academic trends and market or industry requirements.

Also, to ensure that the students have the required domain knowledge, skills and attitude following are factors considered: (i) Syllabus of various reputed Universities (ii) Model curriculum prescribed by AICTE, (iii) Mapping with Program Outcomes (PO), (iv) Suggestions by industry experts and alumni, (v) Syllabi of various competitive exams like GATE, IES, etc.

The academic autonomy of the Institution provides the opportunity to frequently revise the curriculum based on needs and suggestions from various stake holders. In last five years the syllabus of UG programmes was revised in 2016, 2017 and 2020 and for PG in 2020.

All the departments have their programme outcomes (POs), programme specific outcomes,(PSOs) and course outcomes (COs) in place, and these are displayed in the web pages of the respective departments in Institute website.

Course Outcomes (COs) for every course is mapped with the Program Outcomes (POs) of NBA and the Program Specific Outcomes (PSOs) of the program.

The design of the curriculum, in particular, the types of courses, the number of electives, and the open core subjects are carried out in such a way that all the POs & PSOs are addressed. The curriculum is designed carefully by addressing the recent technologies and the opportunities existing in regional and global level with all necessary fundamentals.

The students are made mandatory to upgrade their knowledge by undergoing MOOCS courses through NPTEL. Further the Internship made compulsory for all the students and as a result the student can upgrade the knowledge base in diversified fields.

The department level course committee review the framing of Course outcome for each course.

The Institute keenly observes the attainments of PEO, PO and PSO for the respective programs which in turn relates to Vision and Mission of the institution and Department as well.

An effective implementation of this Outcomes Based Education (OBE) ensures that our graduating engineers have all the 12 POs defined by NBA, and hence can compete on a global platform, and have expected global attribute.

File Description	Documents
Upload additional information, if any	No File Uploaded
Link for additional information	http://mitsgwalior.in/deptdetails.php

1.1.2 - Number of Programmes where syllabus revision was carried out during the year

15

File Description	Documents
Minutes of relevant Academic Council/BOS meeting	View File
Details of syllabus revision during the year	View File
Any additional information	No File Uploaded

1.1.3 - Number of courses focusing on employability/entrepreneurship/ skill development offered by the Institution during the year

336

File Description	Documents
Curriculum / Syllabus of such courses	View File
Minutes of the Boards of Studies/ Academic Council meetings with approval for these courses	View File
MoUs with relevant organizations for these courses, if any	No File Uploaded
Any additional information	No File Uploaded

1.2 - Academic Flexibility

1.2.1 - Number of new courses introduced across all programmes offered during the year

164

File Description	Documents
Minutes of relevant Academic Council/BoS meetings	View File
Any additional information	No File Uploaded
Institutional data in prescribed format (Data Template)	View File

1.2.2 - Number of Programmes offered through Choice Based Credit System (CBCS)/Elective Course System

25

File Description	Documents
Minutes of relevant Academic Council/BoS meetings	View File
Any additional information	No File Uploaded
List of Add on /Certificate programs (Data Template)	View File

1.3 - Curriculum Enrichment

1.3.1 - Institution integrates cross-cutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability, and Human Values into the curriculum

For the all-round development of a student it is essential that moral values, professional ethics, a sensitivity towards societal

issues and awareness about the sustainable development are integrated into the curriculum. After all the future engineers will be shaping the nation in the coming years.

While preparing the syllabi at MITS all these above considerations are properly addressed. The following mandatory courses, having orientation towards the above issues were offered to all the undergraduate engineering students of the 2017-18 and 2018-2019 admitted batches:

1. Energy, Environment, Ecology & Society (Code: 100202, Credits 03) in the First Year itself
2. Biology for Engineers (Mandatory Audit Course; Code-100002) in first year
3. Cyber security (Code:100004,Credits 03)at second year
4. Ethics, Economics, Entrepreneurship & Management(Code: 100005, Credits 02) at third year
5. Indian Constitution & Traditional Knowledge (Mandatory Audit Course, Code 100006)at third year
6. Disaster Management(Code: 100007, Credits 02) at third year
7. Intellectual Property Rights (IPR)(Code: 100008, Credits 02) at final year

The gender sensitization cell of the institute is constantly conducting activities, poster competitions and expert sessions to sensitize the students about this important issue.

File Description	Documents
Upload the list and description of the courses which address issues related to Gender, Environment and Sustainability, Human Values and Professional Ethics in the curriculum	View File
Any additional information	No File Uploaded

1.3.2 - Number of value-added courses for imparting transferable and life skills offered during the year

15

File Description	Documents
List of value-added courses	View File
Brochure or any other document relating to value-added courses	No File Uploaded
Any additional information	No File Uploaded

1.3.3 - Number of students enrolled in the courses under 1.3.2 above

944

File Description	Documents
List of students enrolled	View File
Any additional information	View File

1.3.4 - Number of students undertaking field work/projects/ internships / student projects

823

File Description	Documents
List of programmes and number of students undertaking field projects / internships / student projects	View File
Any additional information	No File Uploaded

1.4 - Feedback System

1.4.1 - Structured feedback and review of the syllabus (semester-wise / year-wise) is obtained from 1) Students 2) Teachers 3) Employers and 4) Alumni

A. All 4 of the above

File Description	Documents
Provide the URL for stakeholders' feedback report	http://mitsgwalior.in/feedbackc.php
Upload the Action Taken Report of the feedback as recorded by the Governing Council / Syndicate / Board of Management	View File
Any additional information	View File

1.4.2 - The feedback system of the Institution comprises the following	A. Feedback collected, analysed and action taken made available on the website
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File Description	Documents
Provide URL for stakeholders' feedback report	http://mitsgwalior.in/feedbackc.php
Any additional information	View File

TEACHING-LEARNING AND EVALUATION

2.1 - Student Enrollment and Profile

2.1.1 - Enrolment of Students

2.1.1.1 - Number of students admitted (year-wise) during the year

1432

File Description	Documents
Any additional information	No File Uploaded
Institutional data in prescribed format	View File

2.1.2 - Number of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc.) as per the reservation policy during the year (exclusive of supernumerary seats)

543

File Description	Documents
Any additional information	No File Uploaded
Number of seats filled against seats reserved (Data Template)	View File

2.2 - Catering to Student Diversity

2.2.1 - The institution assesses students' learning levels and organises special programmes for both slow and advanced learners.

The institute identifies learners as slow, medium and fast learners, then adapts different methods to help them achieve their learning goals.

The UG students are classified into 3 categories; The fast digital learners are the ones who attended all classes, submitted all

assignments and appeared for all weekly quizzes for all courses. The medium level digital learners were those who attended at least one online class per course per week, submitted/appeared for at least 50% of assignments/quizzes. The slow digital learners were those students who were not attending any online classes or attending less than 10% of classes, and who were not submitting assignments/quizzes or submitting/appearing for less than 10 % of assigned/conducted.

One additional class is conducted per week per course for slow and medium level learners. Assignments are given to fast learners so that they can be motivated to achieve higher knowledge levels.

It was reported to IQAC in March 2021 that about 70% students were fast learners, 21% were medium level and 7% were slow learners. The percentage of slow learners dropped from 21.78 % to 18.58 % within one month of starting of the July-December 2020 semester, due to the efforts made by the faculty.

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

2.2.2 - Student – Teacher (full-time) ratio

Year	Number of Students	Number of Teachers
15/07/2020	4352	210

File Description	Documents
Upload any additional information	View File

2.3 - Teaching- Learning Process

2.3.1 - Student-centric methods such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences:

Student centric practices are extensively used in the institute. The MOODLE is in place since August 2017 and the faculty runs their courses through this interactive LMS the advantages of which are as given below:

(i) It offers flexibility of 'anytime anywhere' learning to the

students.

(ii)The students can learn "in their own time, at their own place and at their own pace".

(iii)The digital content generated is easily accessible to all, digital laboratories are also conducted very easily.

(iv)The lecture sessions are recorded &uploaded for ready availability to students.

(v)MOODLE offers flexibility and ease of giving assignments, conducted quiz and conducting 'Flipped Classes'.

Looking at the experience of MITS in this area, the M.P. Government asked MITS for a A 3-day virtual workshop during 09th to 11th July 2020 on" Effective Use of e-learning Platforms for Teaching & e-contents Developments Tools" for faculty members of different Government Polytechnic & Engineering Institutes of Madhya Pradesh (Details enclosed).

After that, an In-House workshop was also conducted on25thJuly 2020for the institute faculty on "Digital Teaching-Learning & Evaluation". Tools and Strategies for virtual Classes, virtual lab conduction,Bloom Taxonomy in Online Teachingwere discussed.

File Description	Documents
Upload any additional information	View File
Link for additional Information	https://docs.google.com/document/d/1KHB4r-ivkMciiBqzKAlbf1qf8xSV-aPY/edit?usp=sharing&ouid=104620522594504000136&rtpof=true&sd=true

2.3.2 - Teachers use ICT-enabled tools including online resources for effective teaching and learning

The institute has a well-equipped central Digital Studio with state-of-the-art equipment for high resolution recording of teaching sessions for MOOCs and other dissemination. All the lectures are either being delivered and recorded using pen-tablets or PPTs making use of in-built tools such as highlighters, laser pointers, colour pens etc. A large number of MOOCs have been/are being developed by the institute faculty. There are mini recording rooms ate each department level. All the class rooms are equipped with white boards and LCD projectors. There are large number of Smart Class Rooms,

Convention Centre, Conclave Centre, Faculty Resource Centre etc. fitted with interactive panels.

All these facilities are used for conducting classes and for evaluation through student presentations for theory projects, seminars, skill presentation and proficiency.

File Description	Documents
Provide link for webpage describing ICT enabled tools including online resources for effective teaching and learning process	https://mitsgwalior.in/ictmits.htm
Upload any additional information	No File Uploaded

2.3.3 - Ratio of students to mentor for academic and other related issues

2.3.3.1 - Number of mentors

152

File Description	Documents
Upload year-wise number of students enrolled and full-time teachers on roll	View File
Circulars with regard to assigning mentors to mentees	View File

2.3.4 - Preparation and adherence to Academic Calendar and Teaching Plans by the institution

The institute prepares an Academic Calendar in the beginning of the Academic Session. The schedule of all the important academic activities is planned well in advance and disseminated to all stakeholders through hard as well soft copies. The calendar is strictly followed. Even during the pandemic times, all academic activities, mid-semester examinations, quizzes for continuous assessment, In-House Summer Internship Programmes, Finishing School, Final year internship, employability skill training, remedial classes etc. were conducted as scheduled.

Except the first year, which is admitted through the centralized state/central government admission process, which is beyond the control of the institute, rest all classes were started as per schedule announced earlier. Even the examination and result declaration process was completed within time.

Sample of teaching scheme and time table of continuous & end-term evaluation for 2020-2021 session are enclosed for reference.

File Description	Documents
Upload the Academic Calendar and Teaching Plans during the year	View File

2.4 - Teacher Profile and Quality

2.4.1 - Number of full-time teachers against sanctioned posts during the year

210

File Description	Documents
Year-wise full-time teachers and sanctioned posts for the year	View File
List of the faculty members authenticated by the Head of HEI	No File Uploaded
Any additional information	No File Uploaded

2.4.2 - Number of full-time teachers with PhD/ D.M. / M.Ch. / D.N.B Super-Specialty / DSc / DLitt during the year

75

File Description	Documents
List of number of full-time teachers with PhD./ D.M. / M.Ch. / D.N.B Super-Specialty / D.Sc. / D.Litt. and number of full-time teachers for 5 years	View File
Any additional information	No File Uploaded

2.4.3 - Total teaching experience of full-time teachers in the same institution: (Full-time teachers' total teaching experience in the current institution)

1593

File Description	Documents
List of teachers including their PAN, designation, Department and details of their experience	View File
Any additional information	No File Uploaded

2.5 - Evaluation Process and Reforms

2.5.1 - Number of days from the date of last semester-end/ year- end examination till the declaration of results during the year

File Description	Documents
List of Programmes and the date of last semester-end / year-end examinations and the date of declaration of result	View File
Any additional information	View File

2.5.2 - Number of students' complaints/grievances against evaluation against the total number who appeared in the examinations during the year

84

File Description	Documents
Upload the number of complaints and total number of students who appeared for exams during the year	View File
Upload any additional information	View File

2.5.3 - IT integration and reforms in the examination procedures and processes including Continuous Internal Assessment (CIA) have brought in considerable improvement in the Examination Management System (EMS) of the Institution

Institute has a well-established & efficient Examination Management System where processes related to Pre Examinations, conduct of examinations, and Post Examination activities are controlled & monitored by the Examination Cell.

Various reforms and IT integration have been undertaken in the last five years that have made a positive impact on examination management:

1. **Automation and IT integration of Examination System:** The examination activities of all programs are managed by an Integrated Management System and Examination Control Software System with following features:
 - Enrolment and registration of students.
 - Attendance Verification of students by HoDs for appearing in exam.

- Entering marks of different types of evaluation components.
- Flexible to handle Elective, Open Category and Audit courses.
- Support for calculating Grades and SGPA/CGPA.
- Student Tracking.
- Compilation and Declaration of Results.
- Printing of provisional degrees and migration certificate.
- Generation of reports (nominal report, result analysis, scroll, success index, academic performance index etc.) for faculty members, administration and regulatory bodies such as NAAC, NBA etc.
- Online Semester/Module Fee Payment.

The automation has resulted in an extensive improvement in the efficiency and transparency of the Examination Department and other stakeholders such as teachers and has also provided an effective method for parents and students to track performance.

1. Apart from End Semester Examinations (ESE), students are evaluated through Continuous Assessments (CA) by individual departments conducted in every courses of a particular Degree program by departmental faculties. Through this process, teachers can identify slow learners among the students and therefore they can improve or change their teaching methods to enrich students with more information. Hence, Continuous Assessments (CA) process in the form of mid sem examinations, seminars, viva-voce, quiz, assignment etc. help students to improve their performance and provide enough scope to the teachers to monitor the progress of students on a regular basis. Weekly Class Assignments on topics covered during the week ensures that the student has paid attention in the classes.

For the continuous assessment of Practical courses, holistic rubrics are used and shared with the students on regular basis to make them aware about their strength and weakness in various parameters of assessment of a course.

1. MOOC Courses: Students can opt to earn credits of elective/open category courses through online offerings such as SWAYAM / NPTEL/Other MOOC platforms. The marks earned in the MOOC courses are taken into consideration for the preparation of the result of the specific semester. This has

- paved the way for students to compare and take courses from the best of Universities offered by acclaimed faculty members.
2. In addition to above, if any student earns additional twenty credits through MOOC platforms, then these credits are considered for awarding UG degree with Minor Specialization/Honors.
 3. Online Viva-Voce Examination: Provision has been made to conduct viva-voce examinations through video-conferencing. This has facilitated the external experts to be engaged in conduction of external examination from distant places in no time and allowed fast declaration of results.
 4. As per the guidelines of AICTE exam reform policy and with the implementation of Outcome based Education in the insitute, the questions of mid sem and end sem exams are mapped with defined Course Outcomes and Bloom's Level of Learning as approved in BoS meeting, conducted twice in a year.
 5. The evaluated Answer Scripts are shown to the desiring students, if students found some Grievance after declaration of result.
 6. The exams of various courses are conducted in different modes i.e. MCQ based, Assignment plus Oral, Pen and Paper based on the nature of the courses.

File Description	Documents
Upload any additional information	View File
Paste link for additional Information	Nil

2.6 - Student Performance and Learning Outcomes

2.6.1 - Programme Outcomes and Course Outcomes for all Programmes offered by the institution are stated and displayed on the website and communicated to teachers and students

The mechanism of communication of Course Outcomes (COs) for all courses to teachers and students:

Course Outcomes (COs) are framed at Department level. The department OBE coordinator with the course experts frames the course outcome of their respective subjects using the guidelines for writing course outcomes.

The committee also discusses in detail, the mapping of course outcomes with program outcomes and program specific outcomes.

The approved COs are then included in the syllabus which are

discussed in the Board of Studies meeting for approval, if necessary, the COs are modified and reframed by the course committee members. Changes in COs are made in the syllabus appropriate places and syllabus is prepared.

As all the teachers are member of Board of Studies, so finalizes COs are communicated to each faculty in Board of Studies presentations and their suggestions are also discussed in course committee meetings.

COs are communicated to the students in the orientation program on commencement of the semester by the class coordinator and the team. Also each faculty discusses the importance of CO during the introduction class itself. COs along with lesson plan are uploaded on MOODLE and shared the students.

Also, in the beginning of each lecture the outcomes of the course are also focused. During the commencement of each unit and after the completion of the unit, the course outcomes are reviewed & discussed with students.

File Description	Documents
Upload COs for all courses (exemplars from the Glossary)	No File Uploaded
Upload any additional information	No File Uploaded
Link for additional Information	http://mitsgwalior.in/deptdetails.php

2.6.2 - Attainment of Programme Outcomes and Course Outcomes as evaluated by the institution

Direct Assessment & Indirect Assessment methods are used for measuring the attainments of Pos, PSOs and CO.

- **Direct Assessment Methods:**

1. **Continuous Assessment:** COs are assessed through mid-term examination, quiz, sessional & Assignment and Lab records. The CO is mapped against each question of quiz and assignment.
2. For each lab, seminar, project work, rubric based assessment is used where each rubric is mapped with the CO, PO & PSO.
3. **Semester-end Theory Examinations:** The questions in semester-end examinations are tested pertaining to all COs, in varying Blooms Taxonomy Levels.
4. The contributions of COs are assessed in high, moderate and

low levels, towards the attainment of POs/PSOs.

- Indirect Assessment Methods:

1. Course End Survey: This survey on course outcomes is taken from the students at the completion of course.
2. Exit survey: This survey taken from the final year students on program outcomes at the completion of their B. Tech program.
3. Alumni Survey : This survey is conducted annually through Google link to obtain the inputs and suggestions on PO/PSO attainment in the real time societal environment
4. Employer Survey: This survey is taken from the employer to measure the PO/PEO attainments.

- Measuring CO attainment:

1. CO Attainment is measured in terms of 'reference attainment levels' against a 'benchmark' defined by the institution. In the beginning, the institute has selected the Benchmark as 60% of maximum marks.
2. The Reference attainment level was decided subject wise. For example for the subject of Engineering Mathematics, the reference attainment are taken as:

Level 1(Satisfactory): 55% students scoring more than benchmark

Level 2 (Moderate): 65% students scoring more than benchmark

Level 3 (Substantial): 70% students scoring more than benchmark

1. In the next step, the target attainment is set as 2. So if 65% students score more than the set Benchmark i.e. the attainment level, then CO attainment is achieved as 2 is the defined target level.
2. As part of continuous improvement, the set target attainment is increased if it is attained in two successive years. Similarly, the reference level may also be raised as a part of continuous improvement.
3. The overall CO attainment level of a course outcome is calculated as weighted sum of attainments obtained by each assessment tools as the rubrics given below:
4. Direct CO attainment= $0.7 \times$ CO attainment through End Sem Exam + $0.2 \times$ CO attainment through Mid Sem Exam + $0.05 \times$ CO attainment through Quiz + $0.05 \times$ CO attainment through assignments
5. Indirect CO attainment= $0.5 \times$ attainment through student feedback+ $0.25 \times$ Course End Seminar + $0.25 \times$ attainment through

one minute paper writing

6. Overall CO attainment Level=0.8* Direct CO attainment+0.2* Indirect CO attainment

Measuring PO/PSO Attainment:

Attainment of POs and PSOs is computed by using direct and indirect assessment methods. The direct PO and PSO assessment is through course outcomes attainment, whereas indirect assessment is based on the survey/ feedback obtained from stakeholder.

Process for Direct POs, PSOs Assessment:

1. Using CO-PO & CO-PSO matrix for each course, the POs, PSOs attainment for given CO attainment in a course is computed for all the courses.
2. The average of PO attainment in individual Courses is the final direct PO/PSO attainment in the level of 1,2 & 3.

Process Indirect Assessment Tools:

1. Feedback and survey questionnaire with score/level for each question is prepared for all stakeholder.
2. Alumni feedback particularly who has graduated within the 3-4 years of current academic year.
3. Industrial Feedback from industry persons.
4. Graduate Exit Feedback by the students.

Overall PO/PSO attainment:

The Overall PO/PSO attainment is calculated using the rubric:

PO/PSO Attainment (Overall) = 0.8xDirect Attainment + 0.2x Indirect Attainment

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	http://mitsgwalior.in/deptdetails.php

2.6.3 - Pass Percentage of students

2.6.3.1 - Total number of final year students who passed in the examinations conducted by Institution

948

File Description	Documents
Upload list of Programmes and number of students appear for and passed in the final year examinations	View File
Upload any additional information	No File Uploaded
Paste link for the annual report	https://mitsgwalior.in/paasingout.php

2.7 - Student Satisfaction Survey

2.7.1 - Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design its own questionnaire). Results and details need to be provided as a weblink

<https://mitsgwalior.in/exitsurvey.php>

RESEARCH, INNOVATIONS AND EXTENSION

3.1 - Promotion of Research and Facilities

3.1.1 - The institution's research facilities are frequently updated and there is a well-defined policy for promotion of research which is uploaded on the institutional website and implemented

There are the following provisions for promotion of research in the institute.

?Seed money to faculty through Innovative research scheme,

?plagiarism & ethics guidelines for all documents, papers, synopsis, conference proceedings, project reports, thesis/dissertations etc.

?Clear norms for sponsoring faculty members for conferences, seminars, training programmes

?Norms for admission to the various Ph.D programmes available in the institute

?Regulations for the degree of doctor of philosophy (Ph.D) applicable as per ordinances of the affiliating university

?Schemes for research scholars as Research Assistants (RA), National Doctoral Fellows(NDF) & Quality Improvement Programme(QIP)

?Norms for regular faculty members of the institute who are pursuing

Ph.D from other institutes

?Norms for constitution of Research Advisory Committee (RAC)

?Appointment & tenure of project fellows (Junior research fellow/Senior research fellow etc.) as per the guidelines of the sponsoring agency/the institute

?Separate stock registers to be maintained for each sponsored research project

?All purchases for research to be first approved/sanctioned by the Director, then state/central government purchase norms to be followed

?Audited Annual Utilization Certificate along with Annual Progress Report (APR) to be submitted to the sponsoring agency within a month of completion of financial year

Additional information available at:

<https://mitsgwalior.in/inspolicy.php>

File Description	Documents
Upload the Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption	View File
Provide URL of policy document on promotion of research uploaded on the website	https://mitsgwalior.in/inspolicy.php
Any additional information	No File Uploaded

3.1.2 - The institution provides seed money to its teachers for research**3.1.2.1 - Seed money provided by the institution to its teachers for research during the year (INR in lakhs)**

1884950

File Description	Documents
Minutes of the relevant bodies of the institution regarding seed money	View File
Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized	View File
List of teachers receiving grant and details of grant received	No File Uploaded
Any additional information	View File

3.1.3 - Number of teachers who were awarded national / international fellowship(s) for advanced studies/research during the year

0

File Description	Documents
e-copies of the award letters of the teachers	No File Uploaded
List of teachers and details of their international fellowship(s)	No File Uploaded
Any additional information	No File Uploaded

3.2 - Resource Mobilization for Research

3.2.1 - Grants received from Government and Non-Governmental agencies for research projects, endowments, Chairs during the year (INR in Lakhs)

24533436

File Description	Documents
e-copies of the grant award letters for research projects sponsored by non-governmental agencies/organizations	View File
List of projects and grant details	View File
Any additional information	View File

3.2.2 - Number of teachers having research projects during the year

33

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	https://drive.google.com/file/d/1og8ShOq6YDkzAEh8K1cGzuIbFKww0Ers/view?usp=sharing
List of research projects during the year	View File

3.2.3 - Number of teachers recognised as research guides

39

File Description	Documents
Upload copies of the letter of the university recognizing teachers as research guides	No File Uploaded
Institutional data in Prescribed format	View File

3.2.4 - Number of departments having research projects funded by Government and Non-Government agencies during the year

6

File Description	Documents
Supporting document from Funding Agencies	View File
Paste link to funding agencies' website	Nil
Any additional information	No File Uploaded

3.3 - Innovation Ecosystem

3.3.1 - Institution has created an ecosystem for innovations and creation and transfer of knowledge supported by dedicated centres for research, entrepreneurship, community orientation, incubation, etc.

The institute was listed as a "Promising Institute" under the category Colleges/Institutes (Govt. & Govt. Aided) (Technical) in Atal Ranking of Institutions on Innovation Achievements" (ARIIA), by Ministry of Education, Govt of India for year 2021.

There are dedicated centres for research and innovation in all the

core engineering departments. These facilities are established with financial assistance from Department of Science and Technology (DST) under the FIST-Level zero, AICTE-MODROB, AICTE-RPS schemes in addition to the support provided by the institute.

About 100 Plus Ph.D scholars are perusing research in the institute. The IPR generated is vast in the form of products, patents, publications and human resource generated. These centres are used for training faculty, staff and students. The research outcomes produced are disseminated to faculty and students of other departments also through various faculty training programmes, FDPs etc. The UG and PG students also work for their projects and dissertations and are encouraged to publish/present their papers in National/International conferences. Publication/presentation of at least 01 paper in journal or conference is a mandatory condition for submission of project/thesis.

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

3.3.2 - Number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR), Entrepreneurship and Skill Development during the year

File Description	Documents
Report of the events	No File Uploaded
List of workshops/seminars conducted during the year	View File
Any additional information	No File Uploaded

3.4 - Research Publications and Awards

3.4.1 - The Institution ensures implementation of its Code of Ethics for Research uploaded in the website through the following: Research Advisory Committee Ethics Committee Inclusion of Research Ethics in the research methodology course work Plagiarism check through authenticated software

A. All of the above

File Description	Documents
Code of Ethics for Research, Research Advisory Committee and Ethics Committee constitution and list of members of these committees, software used for plagiarism check	View File
Any additional information	No File Uploaded

3.4.2 - Number of PhD candidates registered per teacher (as per the data given with regard to recognized PhD guides/ supervisors provided in Metric No. 3.2.3) during the year

3.4.2.1 - Number of PhD students registered during the year

136

File Description	Documents
URL to the research page on HEI website	Nil
List of PhD scholars and details like name of the guide, title of thesis, and year of registration	View File
Any additional information	View File

3.4.3 - Number of research papers per teacher in CARE Journals notified on UGC website during the year

0.47

File Description	Documents
List of research papers by title, author, department, and year of publication	View File
Any additional information	No File Uploaded

3.4.4 - Number of books and chapters in edited volumes / books published per teacher during the year

0.20

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

3.4.5 - Bibliometrics of the publications during the year based on average Citation Index in Scopus/ Web of Science/PubMed

3.4.5.1 - Total number of Citations in Scopus during the year

32

File Description	Documents
Any additional information	No File Uploaded
Bibliometrics of the publications during the year	View File

3.4.6 - Bibliometrics of the publications during the year based on Scopus/ Web of Science – h-Index of the University

3.4.6.1 - h-index of Scopus during the year

2

File Description	Documents
Bibliometrics of publications based on Scopus/ Web of Science - h-index of the Institution	View File
Any additional information	No File Uploaded

3.5 - Consultancy

3.5.1 - Revenue generated from consultancy and corporate training during the year (INR in lakhs)

3895054

File Description	Documents
Audited statements of accounts indicating the revenue generated through consultancy and corporate training	View File
List of consultants and revenue generated by them	View File
Any additional information	No File Uploaded

3.5.2 - Total amount spent on developing facilities, training teachers and clerical/project staff for undertaking consultancy during the year

0

File Description	Documents
Audited statements of accounts indicating the expenditure incurred on developing facilities and training teachers and staff for undertaking consultancy	View File
List of training programmes, teachers and staff trained for undertaking consultancy	No File Uploaded
List of facilities and staff available for undertaking consultancy	No File Uploaded
Any additional information	No File Uploaded

3.6 - Extension Activities

3.6.1 - Extension activities carried out in the neighbourhood sensitising students to social issues for their holistic development, and the impact thereof during the year

The institute is inculcating social responsibility in students. Activities of the National Service Scheme (NSS) are mandatory qualifiers for all second year students. Blood donation, tree plantation, aids awareness, Swachhata Abhiyaan, are routinely conducted.

The Holistic Health Club initiated a poster campaign and vaccination awareness drive by circulating short videos/messages/appeals which were viral among students.

Free vaccination drive in collaboration with Rotary Club & MDP

Foundation, Gwalior in the campus on 20th April 2021; 46 people were vaccinated.

Free Health Camp was organized in collaboration with Birla Hospital, Gwalior. 14 doctors examined 207 people. Ayushyaman card was made for 19 people.

More than 2000 masks were distributed, oxygen extraction units (02 numbers) donated to the local administration. Under the MITS Initiatives towards Social Responsibilities during the deadly second wave of the Covid pandemic, yoga/pranayam (63 session) for 702 participants and nine counselling sessions, for 241 counselees were arranged online in collaboration with different agencies and experts.

Support was provided by MITS staff and volunteers to 23 persons desperately in need of Bed, Ventilators, Medical facility and Oxygen.

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

3.6.2 - Number of awards and recognition received by the Institution, its teachers and students for extension activities from Government / Government-recognised bodies during the year

0

File Description	Documents
Number of awards for extension activities in during the year	No File Uploaded
e-copy of the award letters	No File Uploaded
Any additional information	No File Uploaded

3.6.3 - Number of extension and outreach programmes conducted by the institution through NSS/NCC/Red Cross/YRC, etc. during the year (including Government-initiated programmes such as Swachh Bharat, AIDS Awareness, and Gender Sensitization and those organised in collaboration with industry, community and NGOs)

26

File Description	Documents
Reports of the events organized	View File
Any additional information	No File Uploaded

3.6.4 - Number of students participating in extension activities listed in 3.6.3 during the year

2000

File Description	Documents
Reports of the events	View File
Any additional information	No File Uploaded

3.7 - Collaboration**3.7.1 - Number of collaborative activities during the year for research/ faculty exchange/ student exchange/ internship/ on-the-job training/ project work**

411

File Description	Documents
Copies of documents highlighting collaboration	View File
Any additional information	No File Uploaded

3.7.2 - Number of functional MoUs with institutions of national and/or international importance, other universities, industries, corporate houses, etc. during the year (only functional MoUs with ongoing activities to be considered)

26

File Description	Documents
e-copies of the MoUs with institution/ industry/ corporate house	No File Uploaded
Details of functional MoUs with institutions of national, international importance, other institutions etc. during the year	View File
Any additional information	No File Uploaded

INFRASTRUCTURE AND LEARNING RESOURCES**4.1 - Physical Facilities**

4.1.1 - The Institution has adequate infrastructure and physical facilities for teaching-learning, viz., classrooms, laboratories, computing equipments, etc.

The Institute has a 44.6 Acre lush green campus and adequate infrastructure for teaching-learning activities. The Infrastructure Committee of BoG ensures that the physical facilities meet global standards.

Presently, construction of one additional Academic Block & Hostels are also under progress to accommodate the need of increased intake of students in future. The Institute has Classrooms, Laboratories, Seminar Halls, studios, smart classrooms with online teaching facilities, conference hall, central computer centre, State-of-the-art computer labs, conclave centre, convention hall, student activity centre, MOOC Development Centre, research lab, central library, language lab, virtual labs & Workshops with 24X7 Continuous power supply through dedicated 33 kV sub-station & Diesel Generator & 100kWp rooftop Solar Power Plant with net metering.

The class rooms, seminar halls are equipped with Audio Visual Facility. The campus has an adequate internet facility with dedicated leased line and computing facilities in each department. There is a playground for cricket, football, basketball, volleyball and gymnasium, hostels, mess, cafeteria, Xerox & stationery store, ATM etc. In the last three years, augmentation in physical infrastructure, equipment, library & Digital Teaching-Learning facility is done to fulfill the needs of the increased intake, market driven emerging areas and Covid-19 pandemic.

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

4.1.2 - The institution has adequate facilities for cultural activities, yoga, sports and games (indoor and outdoor) including gymnasium, yoga centre, auditorium etc.)

The institute has established Students Development Cell under the chairmanship of Dean, Students Welfare for promoting and organizing extracurricular and co-curricular activities regularly, every year in the Institute.

There are 58 student clubs on campus, Institute fosters a campus environment that empowers students a desire to co-create experiences

in partnership with others. About 10 clubs deal with cultural, yoga, sports and games activities exclusively.

There are two large grounds in addition to a Cricket Ground, Conclave centre, student activity centre, Basket Ball Ground, Badminton Courts (03), Football/ Hokcey Ground, Gymnasium (020, one indoor and one open gym and Yoga Platform.

As per National Education Policy 2020, Institute has also started credit courses under "Novel Engaging Courses" as part of the flexible curriculum scheme of study for the students admitted in the academic year 2020-21. Courses (88 numbers, presently) on Physical Health (Games & Sports, Physical Fitness), Health & Hygiene (Alternate Therapies, Holistic Health) and other courses to promote overall development of students as per their interest and choice are being offered.

Credits for student Participation in sports, techno culture fest, extra and co-curricular activities at national/state/university level are given under PDC (Professional Development course).

Additional Information available at :
<https://mitsgwalior.in/facilities.php>

File Description	Documents
Geotagged pictures	No File Uploaded
Upload any additional information	View File
Paste link for additional information	https://mitsgwalior.in/facilities.php

4.1.3 - Number of classrooms and seminar halls with ICT-enabled facilities

50

File Description	Documents
Upload any additional information	No File Uploaded
Upload Number of classrooms and seminar halls with ICT enabled facilities (Data Template)	View File

4.1.4 - Expenditure for infrastructure augmentation, excluding salary, during the year (INR in

Lakhs)

57486145

File Description	Documents
Upload audited utilization statements	View File
Details of Expenditure, excluding salary, during the years	View File
Any additional information	No File Uploaded

4.2 - Library as a Learning Resource

4.2.1 - Library is automated using Integrated Library Management System (ILMS)

Name of the ILMS

software

Nature of automation (fully or partially)

Version

Year of automation

Koha

Fully

3.18

2014

Learning resource center of institute automated their library services in 2014 with implementation of RFID and integration of institute ERP software. In 2016 library export his all data and import the same in Koha library automation software.

Koha is a web-based ILS, with a SQL database (MariaDB or MySQL preferred) back end with cataloguing data stored in MARC and accessible via Z39.50 or SRU. The user interface is very configurable and adaptable and has been translated into many languages. Koha has most of the features that would be expected in an ILS, including:

Various Web 2.0 facilities like tagging, comment, social sharing and RSS feeds

- Union catalog facility
- Customizable search
- Online circulation
- Bar code printing
- RFID
- Members card printing

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	https://mitsgwalior.in/central_dept.php?id=1_ib

4.2.2 - Institution has access to the following: e-journals e-ShodhSindhu Shodhganga Membership e-books Databases Remote access to e-resources

A. Any 4 or more of the above

File Description	Documents
Details of subscriptions like e-journals, e-books, e-ShodhSindhu, Shodhganga membership	View File
Upload any additional information	No File Uploaded

4.2.3 - Expenditure on purchase of books/ e-books and subscription to journals/e-journals during the year (INR in lakhs)

834756

File Description	Documents
Audited statements of accounts	No File Uploaded
Any additional information	View File
Details of annual expenditure for purchase of books/e-books and journals/e-journals during the year (Data Template)	View File

4.2.4 - Usage of library by teachers and students (footfalls and login data for online access)**4.2.4.1 - Number of teachers and students using the library per day during the year**

285

File Description	Documents
Upload details of library usage by teachers and students	View File
Any additional information	No File Uploaded

4.3 - IT Infrastructure

4.3.1 - Institution has an IT policy covering Wi-Fi, cyber security, etc. and has allocated budget for updating its IT facilities

IT policies may be classified into following groups:

- IT Hardware Installation Policy
- Software Installation and Licensing Policy
- Network (Intranet & Internet) Use Policy
- E-mail Account Use Policy
- Institute Database Use Policy

The policies will be applicable at two levels :

- End Users Groups (Faculty, students, Senior administrators, Officers and other staff)
- Network Administrators

The objective is to provide secured and monitored access to software, hardware and internet to all users of the Institute 24x7.

The institute has enhanced the following IT infrastructure this year:

- Workstation, Enhancement for in research infrastructure on 25/09/2020
- New facilities/Computational Lab with 50 latest configuration desktop machines on 28/09/2020
- DSLR Camera for lecture and event recording, for Development

of MOOCs, procured on 14/10/2020

- Mobile Workstations for Enhancement in research infrastructure procured on 23/10/2020
- Laptops for teaching lab and theory courses procured on 23/11/2020
- Graphic Tablets as Teaching aid for online teaching procured on 02/12/2020
- Computational Lab with 30 high end computing machines for the development of a new lab
- Interactive Display units 75"and 85" for Enhancement in teaching aids procured on 20/01/2021
- Additional (Backup) Leased Line 100 MBPS for Uninterrupted internet connectivity for online teaching, learning and research procured on 22/01/2021
- UPS for Uninterrupted power supply and internet connectivity for online teaching, learning and research was procured on 03/03/20
- A totalBudget utilized for updating institutional IT facilities is 1.5 crore
- Institution has an IT policy covering Wi-Fi, cyber security, etc.

File Description	Documents
Upload any additional information	View File
Paste link for additional information	https://drive.google.com/file/d/1HK7D2UePt8p-EkkfL17-MeC1AB3fBOFs/view?usp=sharing

4.3.2 - Student - Computer ratio

Number of Students	Number of Computers
4352	1235

File Description	Documents
Upload any additional information	No File Uploaded

4.3.3 - Bandwidth of internet connection in the Institution and the number of students on campus

A. ?50 Mbps

File Description	Documents
Details of bandwidth available in the Institution	View File
Upload any additional information	No File Uploaded

4.3.4 - Institution has facilities for e-content development: Facilities available for e-content development Media Centre Audio-Visual Centre Lecture Capturing System (LCS) Mixing equipments and software for editing

A. All four of the above

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil
List of facilities for e-content development (Data Template)	View File

4.4 - Maintenance of Campus Infrastructure

4.4.1 - Expenditure incurred on maintenance of physical and academic support facilities, excluding salary component, during the year (INR in lakhs)

54845595

File Description	Documents
Audited statements of accounts	View File
Upload any additional information	No File Uploaded

4.4.2 - There are established systems and procedures for maintaining and utilizing physical, academic and support facilities – classrooms, laboratory, library, sports complex, computers, etc.

- The Institute has established systems and procedures along with dedicated manpower for monitoring and to ensure proper maintenance and utilization of infrastructure, library, sports facilities, laboratories, classrooms, seminar halls, students activity centre etc. Following four maintenance cells are developed in the Institute:<https://www.mitsgwalior.in/NAAC/Procedures%20and%20policies%20for%20maintaining%20and%20utilizing%20physical,%20academic%20and%20support%20facilities.pdf>

1. **Civil Maintenance Cell:** Physical Infrastructure facilities like class rooms, Laboratories, Library, Sports complex, Computer Centre etc., are maintained internally by Civil Maintenance Cell of the Institute. Assistant Engineer, technical staff and time keeper etc., are appointed in the Institute. The Civil Maintenance Work is monitored by building committee of the Institute.
2. **Electrical Maintenance Cell:** Institute has a separate Electrical Maintenance cell to ensure uninterrupted power supply and maintenance of electrical assets of 33 kv substation, Diesel Generator sets, lighting, power distribution system, solar panel etc.
3. **ICT Maintenance Cell:** ICT maintenance Cell maintain the facilitates like, computers, LAN, internet, Wi-Fi and, MIS, LMS, CCTV security system, LCD projectors, ICT based Teaching learning facilities other ICT facilities and design through dedicated staff, Assistant registrar IT and in-charge ICT Maintenance Cell.
4. **General Maintenance Cell:** The General maintenance cell is established to keep the campus hygienically clean, drinking water supply through dedicated staff. The maintenance of equipment's for water supply sets, sewage treatment etc. are undertaken as per standard maintenance schedule.

Policies for utilization/Maintenance:

- Separate Complaint registers are maintained for various services like electrical, plumbing, housekeeping etc both for academic and hostel buildings.
- Minor work is carried out by labour and Artisans appointed on labour rates.
- Major maintenance work is carried out on contract through Annual Maintenance Contract System.
- All repair, maintenance and upkeeps of labs are maintained by their lab in-charges/technical staff.
- The utilization reports are maintained by In-charge Laboratory, HoDs, In-charge Maintenance Cell.
- The Advanced and Expensive Equipment are maintained through Annual Maintenance Contract (AMC).
- Equipment, instruments and appliances involved in the teaching-learning process are maintained through internal technical staff, service providers and AMC.
- The procurement of services through AMC, parts/components are procured through well established mechanism of purchase under the monitoring of Central Purchase committee.
- Periodic information/requirement of maintenance is submitted

- by HoDs/Section In-charge to concerning Maintenance Cell.
- Prior to commencement of New academic semester all teaching learning facilities including hostels and sports are maintained by concerning Maintenance Cell.
 - Each laboratory has one faculty as Professor incharge lab, a Lab Assistant and attendant. Lab in-charge is responsible to maintain and upgrade the laboratory with necessary equipments from time to time to cope with change in the curriculum. Stock verification (Physical Verification) is carried out to verify working/nonworking/missing equipments etc. Yearly. Preventive maintenance and performance monitoring is carried out by concern lab--staff. Every laboratory staff keeps the record of utilization of equipments, computers and other required material for experiments.
 - The Institute Central Library is maintained by the Librarian with dedicated library supporting staff. The library services like MIS, digital section, reference sections, Books issuing section, equipments and other library facilities are maintained regularly. Librarian with supporting staff ensures the availability and utilization of instructional material in teaching and learning process. At end of the Academic year stock verification is done. Librarian is responsible to prepare the report on the same and utilization of books by the students and staff. Procurement of books as per the requirement is initiated through library committee by inviting the requirement of books from various departments this is then processed following the procurement procedure.
 - The fire safety equipments are installed at various locations as per standard Operating Procedure on safety and hazards.
 - Various sports faculties like grounds, gymnasiums, indoor game facilities, equipments are regularly maintained by Sports Officer. Sports Officer of the institute looks after the sports facilities and the activities. The sports equipments are issued to the students as per the schedule of the events. If any equipments get faulty sport officer submits proposal for maintenance. Preventive maintenance measures are taken in time. Sport Officer is responsible for keeping the record of utilization of sport Facilities, activities held, awards/achievements of the students etc.
 - The IT coordinators are appointed in various departments to maintain the ICT facility in the department. The IT coordinators through HoDs are also responsible to coordinate with ICT Maintenance Cell of the Institute to maintain effective ICT facility. Technical Aids such as Multimedia Projectors, Laptops, desktops, printers, Wi-Fi, LAN etc are maintained by IT Cell through service provider/ AMCs.

- SOPs are maintained in all laboratories, Computer Centres etc.
- SOP for maintenance and to utilize all Academic, physical and support facilities including teaching learning, research laboratory and computer labs are managed by section In-charge/HoDs.
- Class rooms are allocated to all departments along with necessary ICT tools. The class rooms are utilized as per the time table of the department. The class rooms are cleaned on daily basis monitored by institute supervisor. HODs and Class coordinators also monitor the cleanliness and ensure that the cleanliness is maintained in the class rooms.<https://mitsgwalior.in/inspolicy.php>

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	https://mitsgwalior.in/IOAC/policy/p2.pdf

STUDENT SUPPORT AND PROGRESSION

5.1 - Student Support

5.1.1 - Number of students benefitted by scholarships and freeships provided by the Government during the year

1650

File Description	Documents
Upload self-attested letters with the list of students receiving scholarships	View File
Upload any additional information	No File Uploaded

5.1.2 - Number of students benefitted by scholarships and freeships provided by the institution and non-government agencies during the year

1

File Description	Documents
Upload any additional information	No File Uploaded
Institutional data in prescribed format	View File

5.1.3 - The following Capacity Development and Skill Enhancement activities are organised for improving students' capabilities Soft Skills Language and Communication Skills Life Skills (Yoga, Physical fitness, Health and Hygiene) Awareness of Trends in Technology	A. All of the above								
<table border="1"> <thead> <tr> <th data-bbox="86 439 550 506">File Description</th> <th data-bbox="550 439 1471 506">Documents</th> </tr> </thead> <tbody> <tr> <td data-bbox="86 506 550 613">Link to Institutional website</td> <td data-bbox="550 506 1471 613">https://mitsgwalior.in/capacitydev.php</td> </tr> <tr> <td data-bbox="86 613 550 721">Details of capability development and schemes</td> <td data-bbox="550 613 1471 721">View File</td> </tr> <tr> <td data-bbox="86 721 550 786">Any additional information</td> <td data-bbox="550 721 1471 786">No File Uploaded</td> </tr> </tbody> </table>	File Description	Documents	Link to Institutional website	https://mitsgwalior.in/capacitydev.php	Details of capability development and schemes	View File	Any additional information	No File Uploaded	
File Description	Documents								
Link to Institutional website	https://mitsgwalior.in/capacitydev.php								
Details of capability development and schemes	View File								
Any additional information	No File Uploaded								
5.1.4 - Number of students benefitted from guidance/coaching for competitive examinations and career counselling offered by the institution during the year									
2282									
<table border="1"> <thead> <tr> <th data-bbox="86 992 550 1059">File Description</th> <th data-bbox="550 992 1471 1059">Documents</th> </tr> </thead> <tbody> <tr> <td data-bbox="86 1059 550 1124">Any additional information</td> <td data-bbox="550 1059 1471 1124">View File</td> </tr> <tr> <td data-bbox="86 1124 550 1339">Number of students benefitted by guidance for competitive examinations and career counseling during the year (Data Template)</td> <td data-bbox="550 1124 1471 1339">View File</td> </tr> </tbody> </table>	File Description	Documents	Any additional information	View File	Number of students benefitted by guidance for competitive examinations and career counseling during the year (Data Template)	View File			
File Description	Documents								
Any additional information	View File								
Number of students benefitted by guidance for competitive examinations and career counseling during the year (Data Template)	View File								
5.1.5 - The institution adopts the following mechanism for redressal of students' grievances, including sexual harassment and ragging: Implementation of guidelines of statutory/regulatory bodies Creating awareness and implementation of policies with zero tolerance Mechanism for submission of online/offline students' grievances Timely redressal of grievances through appropriate committees	A. All of the above								

File Description	Documents
Minutes of the meetings of students' grievance redressal committee, prevention of sexual harassment committee and Anti-ragging committee	View File
Details of student grievances including sexual harassment and ragging cases	No File Uploaded
Upload any additional information	No File Uploaded

5.2 - Student Progression

5.2.1 - Number of outgoing students who got placement during the year

475

File Description	Documents
Self-attested list of students placed	View File
Upload any additional information	View File

5.2.2 - Number of outgoing students progressing to higher education

39

File Description	Documents
Upload supporting data for students/alumni	No File Uploaded
Details of students who went for higher education	View File
Any additional information	View File

5.2.3 - Number of students qualifying in state/ national/ international level examinations during the year

5.2.3.1 - Number of students who qualified in state/ national/ international examinations (e.g.: IIT-JAM/NET/SET/JRF/ GATE /GMAT /CAT/ GRE/ TOEFL/Civil Services/State government examinations) during the year

4

File Description	Documents
Upload supporting data for students/alumni	View File
Any additional information	No File Uploaded

5.3 - Student Participation and Activities

5.3.1 - Number of awards/medals for outstanding performance in sports and/or cultural activities at inter-university / state /national / international events (award for a team event should be counted as one) during the year

1

File Description	Documents
e-copies of award letters and certificates	View File
Any additional information	No File Uploaded

5.3.2 - Presence of an active Student Council and representation of students in academic and administrative bodies/committees of the institution

- Students are nominated in BoS, Alumni Cell and Placement Cell at the department level.
- All the student clubs in the institute are managed by student bodies.
- Student volunteers are assigned duties for the smooth conduction of campus placements.
- Group of students are nominated by the Heads of Department as OBE coordinators who help in dissemination of OBE related information.
- Gender Champions for establishing gender equity on campus are nominated by the class coordinators/ Heads of Department from each department, boys as well as girls.
- There are placement coordinators and volunteers for managing placement activities.
- Student representatives nominated to work as alumni coordinators for tracing, storing and involving alumni in the department activities.
- Senior students work as mentors to junior students; each senior

student has 3 first year students to mentor.

- Student representatives are there in the anti-ragging committee of the institute.
- There are class representatives in each class nominated by the class coordinators.
- Students are involved as office bearers in the innovation cell and start-up cell.
- Students are members of Hostel mess committees
- Two student representatives are members of the IQAC.

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

5.3.3 - Number of sports and cultural events / competitions organised by the institution

10

File Description	Documents
Report of the event	View File
List of sports and cultural events / competitions organised per year	View File
Upload any additional information	No File Uploaded

5.4 - Alumni Engagement

5.4.1 - The Alumni Association and its Chapters (registered and functional) contribute significantly to the development of the institution through financial and other support services

- There are a number of scholarships initiated by the alumni for supporting students who are meritorious and from economically weaker sections of the society.
- The alumni help in internships and job placements.
- The alumni help in organizing industrial visits, interactions etc.

- The alumni are involved in curriculum development and are helping in strengthening industry interaction.
- The representatives of the Alumni are there in (i) BoG (ii) IQAC and (iii) BoS and (iv) Anti ragging committees.
- Initiative was taken by the IQAC for creating a database at the department level; Alumni Coordinators are appointed in each department for enhancing interaction, conducting meetings, preparing databases, collecting feedback from alumni etc.
- All accounts are placed before the executive and General body and are passed under policy. The accounts are audited by CA Mayur Garg.
- Discussions were held to help the Institute with practical work and development. This was arranged with knowledge of Alumni working in various organization, as on doing individual entrepreneurship.
- The MITS Alumni Association operates from its permanent office located in MITS Campus.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	Nil

5.4.2 - Alumni's financial contribution during the year

E. <2 Lakhs

File Description	Documents
Upload any additional information	View File

GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 - Institutional Vision and Leadership

6.1.1 - The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the Institution

The institute is managed by the Scindia Engineering College Society (SECS) which is registered under the Societies Registration Act No. 53 of 1950 (no. 337 of 1956). The Institute functions under the chairmanship and guidance of the H.H. Jyotiraditya M. Scindia, Educationalist and other BoG Members. The Institute

is administered by the Director of with other faculty members holding the significant administrative and academics responsibilities. The roles and responsibilities of each functionary are defined and the same are available on Institute website.

The Vision, Mission, branding Statement and value framework is aligned with the perspective plan prepared after SWOT analysis, based on departmental vision and stakeholders' feedback.

There is active participation of the teachers in the decision-making bodies of the institution, such as Internal Quality Assurance Committee, Academic Council, Academic Development Cell, Student Development Cell, Board of Studies, Research Committee, Proctorial Board, Internal Audit Committee, Industry-Institute-Interaction Cell, Library Advisory Committee, Women Guidance, Grievances and Redressal Committee, Girls Grievance Cell, Students Grievances Cell, Discipline Committee, Central Purchase Committee, Anti Ragging Committee as per guidelines of Honorable Supreme Court of India, Internal Complaint Committee (ICC) for Women (Students & Staff) for Sexual Harassment at workplace, Hostel Admission Committee, Building Committee etc.

File Description	Documents
Upload any additional information	View File
Paste link for additional Information	http://mitsgwalior.in/adminmanagement.php

6.1.2 - Effective leadership is reflected in various institutional practices such as decentralization and participative management

The HoDs, Proctor, Deans have well defined duties.

- Powers are given to Class Coordinators to ensure decentralization of all processes, monitoring records of attendance, student leaves, forwarding various documents & applications of students and final forwarding of examination form.

- For each initiative taken by the IQAC separate coordinators are appointed at the department level to help in administration of the different activities such as -

Ø OBE coordinator monitors activities related to attainment of COs through direct and indirect assessment, development of rubrics, computation of POs/PEOs, setting of targets, corrective actions, gap

analysis, question paper analysis on the basis of LOTs/HOTs/Bloom's Taxonomy etc.

ØCoordinator for remedial/bridge classes, Web coordinator for departmental web page management, Coordinator for departmental e-Newsletter, Alumni coordinator for enhancing and managing alumni interaction and Plagiarism administrator 1 have clearly defined responsibilities.

ØCase Study:One of the most successful best practices at MITS is the use of MOODLE for all teaching-learning-evaluation activities. This has been possible due to the role played by the MOODLE coordinator who created awareness by conducting special sessions to address queries of students and faculty from time to time and facilitated effective utilization of the MOODLE for Quiz, Feedbacks, assignments, midterm evaluation etc.

Additional information is available at :
<https://mitsgwalior.in/participative.php>

File Description	Documents
Upload strategic plan and deployment documents on the website	View File
Upload any additional information	No File Uploaded
Paste link for additional Information	https://mitsgwalior.in/participative.php

6.2 - Strategy Development and Deployment

6.2.1 - The institutional Strategic/ Perspective plan has been clearly articulated and implemented

The Institute has developed a strategic plan to ensure the vision & mission of Institute at Academic & Administrative levels. The Board of Governors of the Institute has approved the plans & continuously monitoring the same for effective implementation & progress of the plan specific activities to ensure the quality education.

The Perspective Plan of the Institute is prepared for the development up to 2023. Apart from monitoring by BoG, the state government also monitors the progress and implementation through review meetings. Clear targets are set for different activities and achievements of specific goals such as achieving Accreditation Status, Faculty Recruitment, Academic Reforms, Academic Improvement

Projections, Students Progression Targets, Allocation of Development funds for IT and other learning Infrastructure, Laboratories and Innovations, research & development, Faculty Knowledge Enhancement and student Activities, strengthening of Technical & Internal Support system, providing student Support, alumni engagement, industry interaction, Internationalization etc.

For effective implementation of the National Education Policy (NEP-2020) clear annual projections and numeric goals have been planned. The details were finalized after discussion in the meeting of the Human Resource Development committee of the institute in its meeting in July 2021, where a few administrative heads of the top national institute were also invited.

Additional information at: <https://mitsgwalior.in/perspective.php>

File Description	Documents
Strategic Plan and deployment documents on the website	View File
Paste link for additional information	https://mitsgwalior.in/perspective.php
Upload any additional information	No File Uploaded

6.2.2 - The functioning of the various institutional bodies is effective and efficient as visible from the policies, administrative set-up, appointment and service rules, procedures, etc.

The Board of Governors ensure the establishment/monitoring of effective and efficient systems of control and accountability to ensure Outcome Based Quality Education as per the vision of the Institute.

Ø The day-to-day administrative affairs of the College are managed by the Director of the Institute through a decentralized system to ensure the proper conduct of all the academic/research/development/extension activities.

Ø The administrative responsibilities are shared by the Dean-Academics, Dean-Students Welfare, Registrar, Exam Controller, Proctor, Heads of the Department, Deputy Registrar and Finance officer.

Ø Decentralized mechanism exists in the Institute, the other faculty as per abilities/choice & interests are assigned the responsibility of coordinator/In-charge/member of committee for empowerment and one

to one interaction with the stakeholders.

ØThe various administrative responsibilities as shown in organizational chart of the institute and committees including anti-ragging & Grievance redressal committees have been formed for power delegation and decentralization of authority for the effective/efficient functioning of the institution in all its spheres of planning, decision-making and implementation.

ØThe Board of Governors of the Institute is playing a crucial role in the growth of the Institute in terms of Quality & Quantity through various meetings and visits in the Institute.

File Description	Documents
Paste link to Organogram on the institution webpage	https://mitsgwalior.in/IQAC/orgchart.pdf
Upload any additional information	View File
Paste link for additional Information	Nil

6.2.3 - Implementation of e-governance in areas of operation: Administration Finance and Accounts Student Admission and Support Examination

A. All of the above

File Description	Documents
ERP (Enterprise Resource Planning) Document	View File
Screen shots of user interfaces	View File
Details of implementation of e-governance in areas of operation	View File
Any additional information	View File

6.3 - Faculty Empowerment Strategies

6.3.1 - The institution has effective welfare measures for teaching and non-teaching staff and avenues for their career development/ progression

The welfare measures for the teaching and non-teaching staff are successfully implemented in the Institution, the following benefits are given to the teaching and non-teaching staff:

- Schemes as per MP Govt. norms such as Gratuity, GPF, Pension, Commutation of Pension, leaves, EL encashment, University Welfare Scheme, etc.
- Promotions/upgradation/career advancement etc as per government/institute norms
- Encouragement and Financial Support to the faculty & staff to attend workshops, conferences, and other faculty & staff development/Training programmes with leave
- Seed Money to faculty for research
- The teaching/non-teaching staff are given appreciation letters & Awards for outstanding performance in teaching, research and administration.
- Financial assistance to conduct In-house faculty & staff development programme.
- Conduction of FDP/STTP/workshops/training programmes on emerging areas
- Conduction of Induction programmes for the newly recruited faculty & staff.
- Conduction of various training programmes on pedagogical approaches, Finance Management System, MS-Office, office management for non-teaching staff, and waste management, operating fire extinguisher training for other domestic staff.
- Grievance Redressal Cell to address the issues and grievances of the faculty & staff.
- Availability of full-time professional counsellor for faculty & staff.
- Gymnasium, Sports & Games facility
- Group Insurance Scheme for teaching and non-teaching staff.
- Teachers' Welfare Fund.
- Free health check-up camps, Medical Dispensary

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

6.3.2 - Number of teachers provided with financial support to attend conferences / workshops and towards payment of membership fee of professional bodies during the year

46

File Description	Documents
Upload any additional information	No File Uploaded
Details of teachers provided with financial support to attend conference, workshops etc during the year (Data Template)	View File

6.3.3 - Number of professional development / administrative training programmes organized by the Institution for its teaching and non-teaching staff during the year

35

File Description	Documents
Reports of the Human Resource Development Centres (UGC HRDC/ASC or other relevant centres)	View File
Upload any additional information	No File Uploaded

6.3.4 - Number of teachers who have undergone online/ face-to-face Faculty Development Programmes during the year: (Professional Development Programmes, Orientation / Induction Programmes, Refresher Courses, Short-Term Course, etc.)

76

File Description	Documents
Summary of the IQAC report	View File
Reports of the Human Resource Development Centres (UGC ASC or other relevant centers)	View File
Upload any additional information	No File Uploaded

6.4 - Financial Management and Resource Mobilization

6.4.1 - Institution conducts internal and external financial audits regularly

•The Institute is Grant-in-Aid of M.P. Govt. and receives Annual Block Grant from the State of Madhya Pradesh. Other financial resources are mobilized through Fee collection from the Students for various programs running in the Institute.

•Over and above, the Research Grant as well as Modernization of Laboratory Grants are received annually from AICTE, New Delhi, DST, UGC and like bodies of Government of India.

•There is a Resident Auditor of Govt. of Madhya Pradesh and the Pre-auditing system exists in the Institute. However Post Audit is conducted by Office of the Accounts General, Govt. of India.

•Presently TEQIP-III funds are being audited by an Auditor appointed by SPIU, Bhopal at the State Level & NPIU, New Delhi (MHRD) at the National Level.

•Funds received from Management and other Government bodies, individual etc., are audited by Chartered Accountants appointed by the Society/Board of Governors of the Institute.

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

6.4.2 - Funds / Grants received from non-government bodies, individuals, and philanthropists during the year (not covered in Criterion III and V) (INR in lakhs)

0

File Description	Documents
Annual statements of accounts	No File Uploaded
Details of funds / grants received from non-government bodies, individuals, philanthropists during the year	No File Uploaded
Any additional information	No File Uploaded

6.4.3 - Institutional strategies for mobilisation of funds and the optimal utilisation of resources

The Institute is a Grant-in-Aid institute of M.P. Govt. and receives Annual Block Grant. Other financial resources are mobilized through Fee collection from the Students. For Research and Modernization of Laboratory Grants proposals are submitted to central funding agencies.

The BoG of the Institute allocates the funds to meet the targets for quality education. Adequacy of allocated budget and expenditure is monitored through the finance committee and BoG of the Institute.

Before the commencement of every financial year, the Director submits a proposal on budget allocation, after consideration of recommendations made by the heads of all the departments, section In-charges & Finance officers to the Board of Governors for approval.

Institute budget includes capital expenditure for Infrastructure Developments, recurring expenses such as salary, electricity, internet charges, maintenance cost, stationery, other consumable charges etc.

The expenses are monitored by the finance & accounts section as per the budget allocated by the management.

It can be observed from the expenditure under different heads for different financial years, the budget has been utilized for all round development such as infrastructure (new lab development, modernization of laboratories, seminar room, smart class room), academic and research enrichment, exposure to the outside world.

File Description	Documents
Upload any additional information	View File
Paste link for additional Information	Nil

6.5 - Internal Quality Assurance System

6.5.1 - Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing quality assurance strategies and processes visible in terms of incremental improvements made during the preceding year with regard to quality (in case of the First Cycle): Incremental improvements made during the preceding year with regard to quality and post-accreditation quality initiatives (Second and subsequent cycles)

The two practices institutionalized since the last cycle of accreditation are:

(1) Computation of Faculty Feedback Index (FFI)

The online feedback collection and computation of FFI was started in July 2017. Based on 13 dynamic parameters, rated on a scale of 1 to 5 the FFI is computed using weighted sum method. The FFI reflects the faculty performance for each attribute on a scale of 5. Based on the average FFI, the faculty is appreciated or concern for improvement is expressed through a formal letter. This practice is very well established now and is found to be quite effective in monitoring the T-L activities in the institute.

(2) MOODLE WORKING INDEX (MWI) for monitoring digital teaching-learning.

The MOODLE was established since August 2017 but even after two years some faculty were still hesitant in using this platform. The MWI was developed to encourage/enhance the use of digital-dynamic, teaching-learning-evaluation to permit student centric 'any-time-anywhere' format of learning. The idea behind MWI was to monitor/quantify MOODLE use by faculty. This practice succeeded in increasing the use of MOODLE and slowly all faculty offered courses through MOODLE. Thanks to MWI; MOODLE became an integral part of teaching at MITS even before COVID.

LINK OF THE PRACTICES which have been Institutionalised:

(i) : <http://mitsgwalior.in/instbp.php>

(ii): <http://mitsgwalior.in/IQAC/MITS-BEST-PRACTICES.pdf>

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	http://mitsgwaliar.in/IQAC/MITS-BEST-PRACTICES.pdf

6.5.2 - The institution reviews its teaching-learning process, structures and methodologies of operation and learning outcomes at periodic intervals through its IQAC as per norms

1.The institute periodically reviews all academic practices once by internal audit committee and once by external auditors, in a year.

ØIt is an established practice that the reports of the review are presented in the IQAC for review.The institute follows the practice of conducting Academic Audit twice in an Academic Year.

The previous Academic Audit conducted on22nd& 29thFebruary 2020was reviewed in the IQAC meeting on 3rdMarch 2020 vide Item No 11.

ØIn IQAC meeting dated 11thDecember 2020 vide Item no 3the results of the 'Academic Audit' conducted during August-September 2020 were reviewed.Looking at the Covid-19 scenario, the parameters were reduced from 50 to 40 in the Academic Audit conducted during 27thAugust to 3rdSeptember 2020.

ØThe review parameters are divided into three criteria. Criterion I: Availability of Records & Data Management, Criterion II: Teaching Learning Practices and Criterion III: Quality Improvement Initiatives.

2.The NBA accreditation committee visited the institute for the accreditation of undergraduate programmes of Civil, Mechanical & Electrical Engineering from 19th to 21st February 2021.

ØThe Exit Meeting with visiting experts (in virtual mode) was attended by the Director, all HoDs, Deans, Professors and Section Heads of the Institute in the Faculty Resource Centre from 9.30 AM on 21st February 2021.

ØThe comments of the Hon'able Chairman and Programme Evaluators made during the 'Exit Meeting' were reviewed in the IQAC meeting on 6th Match 2021 vide Item 8. The major strengths and weaknesses mentioned during the Exit Meeting were once by one discussed and reviewed.

3.Mechanism adopted for weekly monitoring of the virtual classes

ØThe online classes (theory, practical, projects, seminars etc.) are being conducted as planned

ØMonitoring using excel sheets is done on a weekly basis to ensure the effective compliance of the action plan drafted for the smooth conduction of the virtual academic session.

ØThe status of conduction of Online Classes (Theory, Laboratory, virtual lab, additional remedial classes, quizzes, assignments status was reviewed in

A.IQAC meeting on 11th December 2020 vide Item no 18 for the period '15th July to 28th November 2020'

B.IQAC meeting on 25th June 2021 vide Item no 20 for the Session Jan -June 2021 (I, II & III Year Students: 7th December 2020 to 30th April 2021)

File Description	Documents
Upload any additional information	View File
Paste link for additional information	Nil

6.5.3 - Quality assurance initiatives of the institution include Regular meeting of the IQAC Feedback collected, analysed and used for improvement of the institution Collaborative quality initiatives with other institution(s) Participation in NIRF Any other quality audit recognized by state, national or international agencies (such as ISO Certification)

A. Any 4 or all of the above

File Description	Documents
Paste the web link of annual reports of the Institution	https://mitsgwalior.in/qualityassurance.php
Upload e-copies of accreditations and certification	View File
Upload details of quality assurance initiatives of the institution	View File
Upload any additional information	No File Uploaded

INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 - Institutional Values and Social Responsibilities

7.1.1 - Measures initiated by the Institution for the promotion of gender equity during the year

The IQAC, routinely reviews the initiatives for establishing gender equity in the institute; This year, it was on 29/08/2020 vide item number 15 and on 06/03/2021 vide item no. 29 :

1.A workshop on "Equity at Workplace" to celebrate women's day; first session by Dr. Varuna Sushim Viswas, former Army Medical Officer. The second by Mrs. Suman Yadav, Student Counsellor was about the difference between Equity and Equality. Then games & fun activities were organized to break the mental barrier about gender differences.

2. One-day Online Workshop on "GENDER EQUALITY AND WOMEN SAFETY" under TEQIP III on 10th July 2020. The session was conducted by Mrs. Breeze Tripathi, Self Defence Trainer & Social Activist.

3. An online poster making competition during the pandemic (Naari-the Aadi Shakti).

4. A meeting of the cell was held on 23.11.2020 for planning and briefing about the safety measures/precautions.

5. A meeting of the cell was held on 25.01.2021 to select new Gender warriors. After scrutiny 80 forms were shortlisted for interview and 40 qualified as Gender Warriors.

6. Gender Warriors were then trained by expert Ms. Prerna Priya, Faculty Jiawaji University, Gwalior on 27th February 2021.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	https://mitsgwalior.in/ggc.php

7.1.2 - The Institution has facilities for alternate sources of energy and energy conservation: Solar energy Biogas plant Wheeling to the Grid Sensor-based energy conservation Use of LED bulbs/ power-efficient equipment

B. Any 3 of the above

File Description	Documents
Geotagged Photographs	View File
Any other relevant information	No File Uploaded

7.1.3 - Describe the facilities in the institution for the management of the following types of degradable and non-degradable waste (within a maximum of 200 words)

- Solid waste management- Two-bin system has been implemented in the institute to collect the biodegradable and non-biodegradable waste separately. The biodegradable waste generated are dumped into compost plant and the non-biodegradable waste is sold to the agency for recycling.
- Liquid waste management- The institute has established two Sewage Treatment Plants (STP) which has the capacity of 1.5 KLD for the disposal of liquid effluent. After the STP process the treated water is used for the irrigation of agriculture field, grounds, parks etc in the campus.
- E-waste management- E-waste from college is collected and under the process of safe disposal through recyclers who are registered by the Central Pollution Control Board of Govt of India.
- Hazardous chemicals and radioactive waste management- Chemicals used in the laboratory are dilute acids only. Otherwise the chemicals are safe and not hazardous.
- Waste recycling system- The institute has adopted an effective recycling system where the biodegradable solid wastes are collected from the campus and dumped in the compost unit to produce organic fertilizers. The fertilizer thus produced is used for enhancement of soil nutrition. Besides the Institute also educates concern in the campus about the significance of waste recycling system.

Additional information: <https://mitsgwalior.in/wastemanagement.php>

File Description	Documents
Relevant documents like agreements/MoUs with Government and other approved agencies	No File Uploaded
Geotagged photographs of the facilities	View File
Any other relevant information	No File Uploaded

7.1.4 - Water conservation facilities available in the Institution: Rain water harvesting Bore well /Open well recharge Construction of tanks and bunds Waste water recycling Maintenance of water bodies and distribution system in the campus

A. Any 4 or all of the above

File Description	Documents
Geotagged photographs / videos of the facilities	View File
Any other relevant information	No File Uploaded

7.1.5 - Green campus initiatives include

7.1.5.1 - The institutional initiatives for greening the campus are as follows:

- 1. Restricted entry of automobiles**
- 2. Use of bicycles/ Battery-powered vehicles**
- 3. Pedestrian-friendly pathways**
- 4. Ban on use of plastic**
- 5. Landscaping**

A. Any 4 or All of the above

File Description	Documents
Geotagged photos / videos of the facilities	View File
Various policy documents / decisions circulated for implementation	No File Uploaded
Any other relevant documents	No File Uploaded

7.1.6 - Quality audits on environment and energy undertaken by the institution	
<p>7.1.6.1 - The institution's initiatives to preserve and improve the environment and harness energy are confirmed through the following:</p> <ol style="list-style-type: none"> 1. Green audit 2. Energy audit 3. Environment audit 4. Clean and green campus recognitions/awards 5. Beyond the campus environmental promotional activities 	<p>A. Any 4 or all of the above</p>
File Description	Documents
Reports on environment and energy audits submitted by the auditing agency	View File
Certification by the auditing agency	No File Uploaded
Certificates of the awards received	No File Uploaded
Any other relevant information	View File
<p>7.1.7 - The Institution has a disabled-friendly and barrier-free environment: Ramps/lifts for easy access to classrooms and centres Disabled-friendly washrooms Signage including tactile path lights, display boards and signposts Assistive technology and facilities for persons with disabilities: accessible website, screen-reading software, mechanized equipment, etc. Provision for enquiry and information: Human assistance, reader, scribe, soft copies of reading materials, screen reading, etc.</p>	<p>B. Any 3 of the above</p>

File Description	Documents
Geotagged photographs / videos of facilities	View File
Policy documents and brochures on the support to be provided	No File Uploaded
Details of the software procured for providing assistance	No File Uploaded
Any other relevant information	No File Uploaded

7.1.8 - Describe the Institutional efforts/initiatives in providing an inclusive environment i.e. tolerance and harmony towards cultural, regional, linguistic, communal, socio-economic and other diversities (within a maximum of 200 words).

The institute takes several initiatives to provide inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities. The institute has assigned the responsibilities to faculty/officials including different grievance redressal cells to ensure creation of an environment without racial or cultural bias. The following officials are regularly organizing/celebrating various talks, National and International Days, Events, Festivals and cultural activities to bring tolerance and harmony.

The details of administrative responsibilities are available on <http://mitsgwalior.in/impdocument/Additonal%20Responsibility.pdf>. Institute has defined the code of conduct for faculty, Staff and students to be followed by each one of them irrespective of their cultural, regional, linguistic, communal socioeconomic and other diversities. The details are available on <http://mitsgwalior.in/coc.php>. Understanding the fact that students belongs to different caste, religion, regions, the Mandatory Audit Courses "Indian Constitution & Traditional Knowledge" is made mandatory to all B.Tech. students of all the disciplines to create a culture of intolerance among students towards cultural, regional, linguistic, communal socio economic and other diversities.

Celebration of National/International commemorative days, events/festivals, activities pertaining to NSS, NCC, students clubs, sports, cultural and other such activities also help in bringing students and teachers with diverse background on single platform for creating an inclusive environment.

Additional Information available at :
<https://mitsgwalior.in/inclusive.php>

File Description	Documents
Supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution)	View File
7.1.9 - Sensitization of students and employees of the institution to constitutional obligations: values, rights, duties and responsibilities of citizens:	
<p>The Department of Humanities has introduced a course titled Indian Constitution and Traditional Knowledge in the Academic Session 2017-18. This is an audit Course and is offered to students twice a year to III Year students during V & VI Semester. The course outline includes theory classes, assignments, and moodle quizzes. A split up number students who have undertaken this course is appended below. A total of 65 students have appeared in the end semester examinations and internals during the first year of inception. Since then the numbers of students enrolling for the course has remained between 60-80 per semester.</p>	
<p>The participation of students has remained stable since the inception of the course. During the first year student students activities were low and were increased in subsequent years. Till date 442 students have participated in the program out of which ___ have been awarded certificates for successfully completing the course.</p>	
<p>In the present format one weekly quiz and one fortnightly assignment is given to students with 01 additional activity, like discussion, is organized in consultation with the students.</p>	
<p>Details of activities that inculcate values necessary to transform students into responsible citizens :</p>	
<p>Year/Academic Session</p>	
<p>Enrolment</p>	
<p>Assignments</p>	
<p>Quizes</p>	
<p>Group Discussions</p>	

Jul-17

64

2

2

-

Jan-18

45

2

2

-

Jul-18

68

2

2

-

Jan-19

56

2

2

-

Jul-19

67

2

MAAC

4
-
Jan-20
81
6
12
1
Jul-20
61
4
8
1
442
20
32
02



File Description	Documents
Details of activities that inculcate values necessary to transform students into responsible citizens	View File
Any other relevant information	No File Uploaded

7.1.10 - The institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic sensitization programmes in this regard: The Code of Conduct is displayed on the website There is a committee to monitor adherence to the Code of Conduct Institution

A. All of the above

organizes professional ethics programmes for students, teachers, administrators and other staff Annual awareness programmes on the Code of Conduct are organized

File Description	Documents
Code of Ethics - policy document	View File
Details of the monitoring committee composition and minutes of the committee meeting, number of programmes organized, reports on the various programmes, etc. in support of the claims	No File Uploaded
Any other relevant information	No File Uploaded

7.1.11 - Institution celebrates / organizes national and international commemorative days, events and festivals

The institute celebrates national and international commemorative days to create awareness about different issues among faculty and students. International Youth Day was celebrated on 12th August 2020 and a two-minute quiz competition on the topic- Youth achievements, their Role and Contribution was conducted. The 74th Independence Day was celebrated on 15th August 2020 with flag hoisting, speeches, poems etc. On 26th Jan. 2021, the 72nd Republic Day was celebrated by hoisting the Indian tricolour. Director, Dr. R.K.Pandit in his address mentioned -"The glory of justice and the majesty of law are created not just by the Constitution - nor by the courts - nor by the officers of the law - nor by the lawyers - but by the men/women of our society. Republic D'Art: Competition of artworks on India's Diversity, Constitution, and Freedom was organized. Online national level competition of art works -SheRules~Runs~Rocks: Campaign was organized on the International Women's Day on 8th March 2021.

World Heritage Day on 18th April 2021 was commemorated with a state level painting exhibition. On World Environment Day, 5th June 2021 the theme was -Art and Craft using waste / Best out of waste.

File Description	Documents
Annual report of the celebrations and commemorative events for during the year	View File
Geotagged photographs of some of the events	No File Uploaded
Any other relevant information	View File

7.2 - Best Practices

7.2.1 - Provide the weblink on the Institutional website regarding the Best practices as per the prescribed format of NAAC

BEST PRACTICE -1

1. Title: 'Digital teaching-learning action plan'

1. Objectives of the practice: The objective of putting this action plan in place was

- To meet the challenges of conducting teaching-learning-evaluation (T-L-E) activities in a fully 'digital only' mode due to COVID-19
- To have a detailed policy and action plan to serve as a guideline for the conduction of (i) Theory Classes (ii) Practical Classes (iii) Continuous weekly evaluation through quizzes & assignments (iv) Additional/special classes for remedial purposes and (v) Mid-semester evaluation.
- To have clarity, uniformity, discipline and an effective mechanism of T-L-E for the students, faculty and technical staff during the disturbing pandemic times when some learners and faculty were facing bandwidth/connectivity/digital resource challenges

1. The Context:

- When a sudden nationwide lockdown was imposed in March 2020 due to the COVID-19 pandemic, the T-L-E activities had to be shifted to digital mode in a fire fighting mode.
- However, when the new semester started in July 2020, the institute attempted to put all the practices and provisions in black and white to bring clarity and avoid any kind of panic among students regarding missing out on their career and learning goals.
- The "Digital Teaching-Learning Action Plan" was prepared by

customizing the PRAGYATA guidelines of Ministry of Education, (then MHRD), New Delhi to the scheme, scope and needs of engineering education.

- All the faculty & staff members were asked to follow these guidelines meticulously in word and spirit to and to use innovative methods and interesting tools, marking a shift from traditional teaching to student centric activity based learning.
- The guidelines for digital teaching learning were prepared and circulated well in advance on 26th June 2020. The plan was reviewed by the IQAC on 29th August 2020 vide Item no 3.

1. The Practice:

- The PRAGYATA guidelines issued by the Ministry of Education (then MoHRD) , GoI, for digital education, included eight steps of online education that is, Plan, Review, Arrange, Guide, talk, Assign, Track, and Appreciate.
- The institute prepared a weekly digital learning & assessment plan and it was circulated vide order no 44 dated 16th July 2020 permitting the following modes for teaching-learning:

1. Synchronous Mode: This is online collaborative learning through video conferencing or interactive online class using zoom, Google meet or similar other platforms.
2. Asynchronous Mode: This learning happens when the teacher & students are not connected in real time, for example when learning or communication is through e-mails, whatsapp groups, SMS or MOODLE.

1. On-line Mode: Learning in this mode can be of the following types:

- Flipped class: Teachers ask students to study the shared learning material before coming to online class and then discuss and ask questions during the interactive class conducted through video conferencing platforms.
- Regular online class: The faculty conducts the regular scheduled classes through any of the chosen online platforms.
- Live class: The interactive online class is conducted through any learning management system(LMS), students interact with teacher during the class, all learning material, assignments etc are shared through the LMS.

1. **Semi-off-line Mode:** Learning in this mode is being facilitated for students who have problems with internet connectivity or bandwidth and hence who can't attend scheduled classes.

- Classes are recorded and uploaded on Youtube/google drive with link on MOODLE.
- The students, who don't have continuous access or bandwidth to attend all scheduled classes, can download the video lectures/demonstrations/ simulations/other learning material/ assignments etc.
- The students send their queries/assignments through e-mails or what's app to the teachers.
- Once a week an on-line interactive additional class is scheduled for explaining concepts and answering students' queries.
- Question-answer model will be used. Along with notes faculty is providing solutions of assignments.

1. **Continuous Assessment of Theory& Laboratory Sessions**

To keep track of student learning and to keep students engaged and interested in the online education being imparted the following assessment schedule was implemented for both synchronous & asynchronous learners.

Assessment of Theory:

- Minimum 01 short quiz per course per week as scheduled by teacher
- Minimum 01 short assignments per week (hand written)
- Mid-semester exams: 02 (average score)
- Group project & presentation (twice in semester)
- Course end seminar(01)

Assessment of Practical Component:

- Submission of hand written/typed lab report after each class
- Minimum 01 short practical quiz per course per week as scheduled by teacher
- Minimum 01 internal vivas per month as scheduled by the teacher (01 x number of weeks)
- Final internal viva (01)

1. **Evidence of Success:**

- MITS was the first institute to conduct classes in digital

mode, very effectively, thanks to the existence of MOODLE and the timely preparation of the "Digital Teaching-Learning Action Plan since 26th June 2020.

- Looking at the successful conduction of digital classes and virtual laboratories in the institute during the lockdown, the Directorate of Technical Education, Madhya Pradesh asked MITS demonstrate leadership by conducting virtual workshop, under IQAC, during 09th July to 11th July 2020 on "Effective Use of e-learning Platforms for Teaching & e-contents Developments Tools" for 1600 plus technical teachers of the state.
- This plan has been very successful in completing the syllabi and session on time.
- It has met the requirements of all kinds of learners and has permitted 'in your own time, at your own place, at your own pace' model of learning.
- Though online/digital education cannot replace conventional classroom teaching, it has many advantages; it has succeeded in generation of a large volume of digital content by the faculty, popularized MOOCs and encouraged our own MOOC development activity.
- The digital content generated is available at all times and easily augmentable.
- Audio, video and multimedia resources can be easily integrated
- The students were able to expand their intellectual horizon and devote energy in learning the use of tools and skills which may not have been possible in traditional teaching environment.

1. Problems Encountered and Resources Required:

FAQs were circulated

- Initially there were problems of bandwidth and data availability among some sections of students but slowly they became used to the asynchronous mode of learning and the continuous assessment and additional classes helped them in being with the class.
- The institute already had a digital recording studio in place and faculty were familiar with use of MOODLE and other online platforms.
- Pen-tablets, portable cameras and subscription of GOOGLE MEET and zoom was purchased.
- Initially students had lots of queries regarding live classes, excessive screen time etc. Counseling sessions were conducted by the class coordinators, all queries were compiled and FAQs

were posted on website/MOODLE.

- After these initial hurdles, students appreciated the institute initiative of providing a transparent and effective T-L-E mechanism to ensure student learning during troubled times.

1. Notes (Optional)

The institute has identified portions of syllabi/courses which can be learnt easily in digital mode in future also. This classification has been integrated in the schemes and curriculum also and in future offline/online/blended all three modes will be indicated in the lecture plan.

The Digital Action Plan is available at:

<https://www.mitsgwalior.in/login/upload/Digital%20Leraning%20Action%20Plan%202020.pdf>

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Report of Online Classes

(15th July 2020 to 11th September 2020)

Theory Classes

Department

Total Classes scheduled

Total Classes conducted

Total Classes recorded

Total Link shared

Total assignments given

Total Quiz conducted

Average % attendance

Civil Engineering

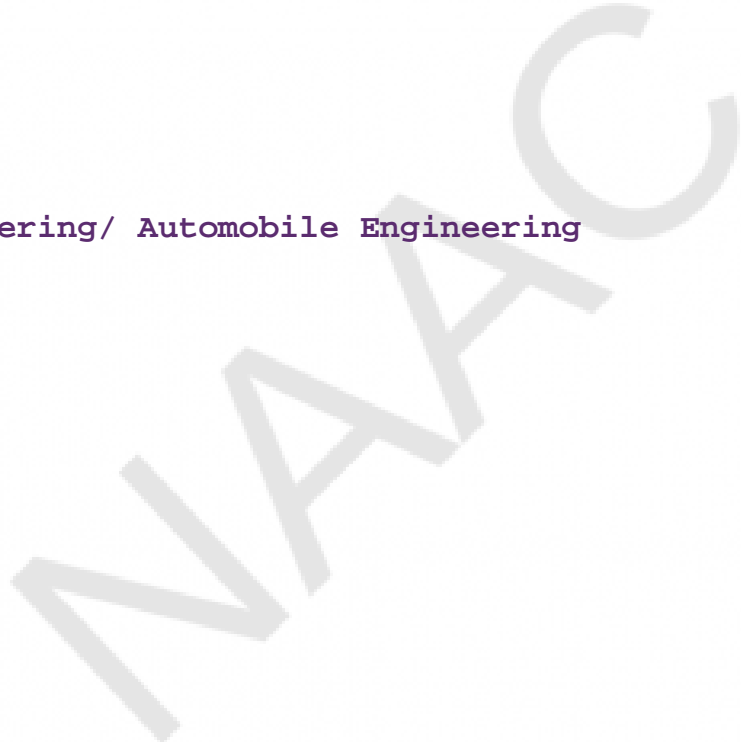
480
480
396
376
84
94
48.71

Mechanical Engineering/ Automobile Engineering

665
639
553
513
89
90
47.78

Electrical Engineering

359
359
336
329
121
211



54.81

Electronics Engineering/ Electronics & Telecommunication Engineering

643

634

581

553

194

190

53.27

Computer Science & Engineering/ Information Technology /MCA

998

992

931

879

351

333

53.67

Chemical Engineering

313

304

262

273

99

115

52.49

Biotechnology

181

181

150

135

42

43

50.28

Humanities

59

59

39

40

4

17

26.33

Applied Science (Math)

127

127

68

82



20

13

40.96

Architecture

565

543.5

197

148

97

60

68.53

Practical Classes

Department

Total Classes scheduled

Total Classes conducted

Total Classes recorded

Total Link shared

Total Lab report formats uploaded

Average % attendance

Civil Engineering

118

118

74



74

53

25.37

Mechanical Engineering/ Automobile Engineering

186

175

146

145

123

27.59

Electrical Engineering

146

146

140

139

107

46.89

Electronics Engineering/ Electronics & Telecommunication Engineering

324

313

301

295

275



52.48

Computer Science & Engineering/ Information Technology/ MCA

155

152

142

140

111

42.97

Chemical Engineering

67

66

52

56

58

47.11

Biotechnology

26

26

24

23

16

27.31

Architecture



159

152

51

51

18

59.79

Additional Classes/Special classes for remedial purpose

Department

Total Classes conducted

Total number of students

Civil Engineering

17

231

Mechanical Engineering/ Automobile Engineering

63

462

Electrical Engineering

47

203

Electronics Engineering/ Electronics & Telecommunication Engineering

74

182

Computer Science & Engineering/ Information Technology/ MCA

93

408

Chemical Engineering

21

245

Biotechnology

5

18

Humanities

7

121

Applied Science (Math)

4

122

Architecture

73

337

Total

404

2329

Performance Monitoring of Assignments & Quizzes (15 July to 11 Sep. 2020)

Department

No. of Students registered (All Courses)

Students who submitted at least 50% of assignments

% of Students who submitted at least 50% assignments

Average % marks received

Appeared in minimum 50% of quizzes

% of Students appeared 50% quizzes

Average % marks received

Civil Engineering

1429

551

38.56

70.91

758

53.04

66.91

Mechanical Engineering/ Automobile Engineering

2074

678

32.69

82.55

783

37.75

68.62

Electrical Engineering

1448

708

48.90

79.05

811

56.01

71.60

Electronics Engineering/ Electronics & Telecommunication Engineering

2062

1375

66.68

81.55

1365

66.20

79.91

Computer Science & Engineering/ Information Technology

2112

1121

53.08

82.30

1289

61.03

76.05

Chemical Engineering

638

438

68.65

72.97

571

89.50

69.98

Biotechnology

40

28

70.00

82.50

27

67.50

81.00

Humanities

804

328

40.80

4.75



204

25.37

3.28

Applied Science (Math)

616

496

80.52

3.63

516

83.77

3.84

Architecture

590

266

45.08

73.00

218

36.95

75.91

Statistical Analysis of Assignments (Based on all courses offered by the Departments)

Department

Students who submitted minimum 50% of assignments (15th July to 11th Sep. 2020)

Average % marks received (15th July to 11th Sep. 2020)

Highest

Average

Lowest

Standard Deviation

Highest

Average

Lowest

Standard Deviation

Civil Engineering

108

66

6

32.22

85.00

74.06

55.00

9.87

Mechanical Engineering/ Automobile Engineering

122

48

8

38.74



95.00

82.57

54.00

9.32

Electrical Engineering

120

60

2

45.07

95.00

77.30

54.00

12.62

Electronics Engineering/ Electronics & Telecommunication Engineering

167

61

3

45.72

89.73

78.78

30.76

12.49

Computer Science & Engineering/ Information Technology

98
46
10
26.10
100.00
80.11
8.00
15.25
Chemical Engineering
67
38
5
14.26
92.00
74.34
25.65
16.81
Biotechnology
8
7
6
0.82
90.00



82.50

70.00

9.57

Humanities

281

109

2

151.21

5.00

4.75

4.50

0.35

Applied Science (Math)

191

165

147

22.90

3.90

3.63

3.50

0.23

Architecture

35



28

12

7.21

75.00

72.50

70.00

2.74

Statistical Analysis of Quizzes (Based on all courses offered by the Departments)

Department

Students who appeared in minimum 50% of quizzes (15th July to 11th Sep. 2020)

Average % marks received (15th July to 11th Sep. 2020)

Highest

Average

Lowest

Standard Deviation

Highest

Average

Lowest

Standard Deviation

Civil Engineering

114

74

12

34.63

77.00

67.08

55.30

6.87

Mechanical Engineering/ Automobile Engineering

128

52

7

41.28

90.00

68.23

34.60

15.76

Electrical Engineering

121

73

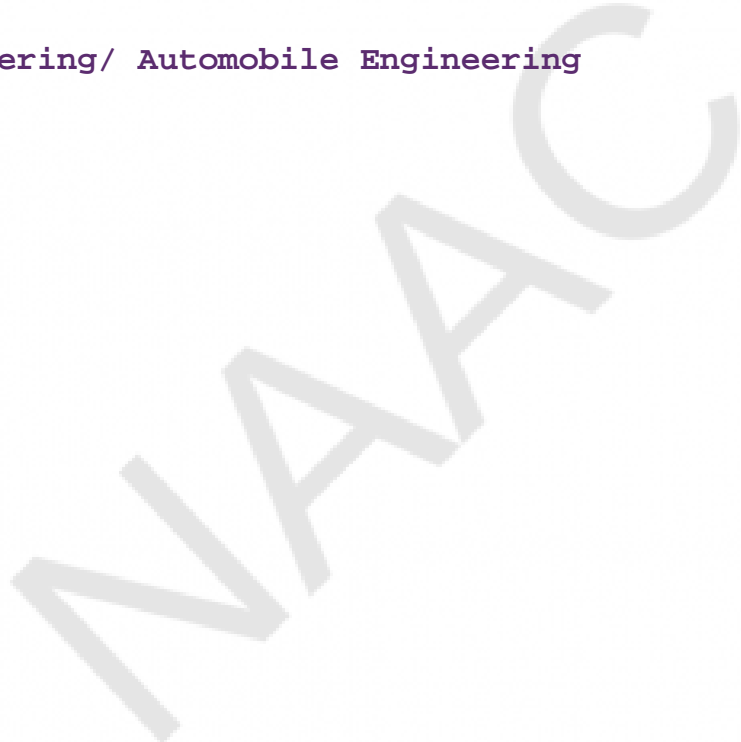
2

44.01

96.62

75.04

58.95



8.64

Electronics Engineering/ Electronics & Telecommunication Engineering

172

67

4

46.59

98.00

77.94

54.30

9.45

Computer Science & Engineering/ Information Technology

120

54

12

30.07

93.00

75.67

52.00

10.60

Chemical Engineering

77

48

25

16.47

85.00

69.95

30.10

13.71

Biotechnology

7

7

6

0.50

85.00

81.25

80.00

2.50

Humanities

98

68

44

27.50

3.37

3.28

3.20

0.12



Applied Science (Math)

186

172

156

15.10

4.26

3.84

3.25

0.52

Architecture

37

31

26

3.96

83.38

75.17

70.00

4.61

ALL FINAL BRIEF REPORTS OF ONLINE CLASSES (SESSION : JULY 2020 TO JUNE 2021) IS UPLOADED ON WEBSITE

BEST PRACTICE-2

1. Title: Development and implementation of the Flexible Curriculum
1. Objectives of the practice: The objective of the development of the Flexible Curriculum was to

- Provide students with an option to choose a percentage of their domain courses as per their career choice and interest
- Provide option for selecting interdisciplinary courses as per their choice and inclination
- Provide a chance for getting minor specialization in an allied discipline along with B.Tech in parent discipline
- Provide a chance for getting an honours specialization in a sub-discipline parent discipline along with regular B.Tech degree
- Provide a chance for the students to become self-learners by opting a few on-line courses for credit transfer through MOOCs
- Provide opportunities for the students to become 'Job ready' through mandatory internships and industrial projects
- Provide scope for professional development by assigning credits to achievements of extra & co-curricular activities for the holistic development

1. The Context :

- In order to fulfil the need of producing graduates which will have interdisciplinary orientation and will have choice to pick courses as per their aptitude and career interest, the Flexible Curriculum was developed in 2017-2018.
- This curriculum was modeled after the 'AICTE Model Curriculum 2018' and implemented w.e.f. Academic Year 2018-19 with provision for credit transfer through MOOCs.
- The MITS faculty was working hard for developing a "Choice Based Credit System (CBCS)" since 2015-2016 which was later named as "Flexible Curriculum".
- The idea was to fulfill the aspirations of our graduates by providing them choice and flexibility in learning and shaping their careers.

1. The Practice : The Flexible Curriculum was developed and approved by the Academic Council of the institute for implementation w.e.f. Academic Session 2018-19.

- A committee was constituted for preparing the scheme and structure for the new flexible curriculum. Many reviews and workshops with representatives of stakeholders & Board of Studies Meetings were conducted and then placed in the Academic Council for approval in April/May 2018.
- Detailed agenda for BoS meetings was drafted by the Academic Development Cell (ADC) and circulated to all departments for implementation.
- Board of Studies meetings in September-October 2018 & February-

March 2019 finalized syllabi, with COs & POs.

- The DEs, OCs & MOOCs to be offered in the next semester are approved by the BoS in its meetings; For the latest July 2020-December 2020 these courses were approved by the Academic Council meeting on 15th June 2020.
- A discussion & orientation session was conducted by the Academic Development Cell (ADC) with the faculty to brainstorm on the different provisions of this curriculum
- The list of courses approved by BoS and Academic Council for getting an (i) Honours in parent discipline or (ii) Minor specialization in other allied engineering disciplines displayed on the institute website

- The meeting of the BoS is twice a year for
 - Proposing departmental Electives/Open Elective courses
 - Approving electives from NPTEL/SWAYAM/MOOCs for credit transfer
 - Proposing list of additional courses under minor specialization in allied disciplines
 - Proposing list of additional courses for Honours in the parent discipline

Reviewing the Course Outcomes & their attainment and setting targets/corrective actions after gap analysis

- Revisions in courses
- Introduction of new courses as per the industry demand
- Introduction of courses - enhancing employability and skill
- Curricula feedback taken from all stakeholders

The salient features of the Flexible Curriculum are:

- There is provision of about 13-14 core courses, about 5-6 electives, 05 open electives in addition to mandatory courses, science & humanity component for Engineering Programmes
- There is provision of additional courses equivalent to 20 credits for getting honours or minor specialization
- There is provision for three mandatory internships
- There is provision for MOOCs in each semester from III semester onwards
- For the award of Under Graduate Degree (UG) in Engineering/Technology & Architecture, it is required to earn minimum 160-170 & 260 Credits respectively.
- Students are eligible to get UG Degree with Honours or Minor Specialization (relating to other fields of Engineering,

Technology, Applied Science, Management etc.), if they earn 20 & 24 extra credits (in addition to the compulsory credits required to obtain the B. Tech. & B. Architecture degrees respectively).

- These additional credits can be acquired through SWAYAM /NPTEL/MOOC platform based learning.
- There is a provision from 5th semester onwards for the desirous students to opt for additional courses in order to earn the 20/24 additional credits required for honours or minor specialization.
- Different Tracks of Specialization are created for the students, according to their interest & career focus, for selecting additional courses to get Honours or Minor Specialization.
- Ethics, Environmental Science, Disaster Management, Intellectual Property Rights (IPR) and Cyber Security are included as Mandatory Courses (MC) at appropriate places in the scheme.
- There are is provision for Mandatory Audit Courses; At present 'Biology for Engineers' and 'Indian Constitution & Traditional Knowledge' are being offered.
- Beginning with academic year 2018-19, there is an Induction Programme of three (03) weeks duration for the First Year Students, which will include- Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Department/Branch & Innovations, Foundation Courses etc. To accommodate for this activity at the beginning of the session, the credits of 1st & 2nd Semester have been kept at 21.
- One Credit' at the 8th semester is allotted for 'Professional Development' to motivate, inspire and recognize student participation at National/ International level technical events during the entire tenure of the UG programme. The detailed guidelines for evaluation will be prepared in due course of time.

Professional Development Course (PDC)

- The guidelines for evaluation of the were already prepared with the other documents of the 'Flexible Curriculum'.
- The evaluation datasheet for PDC at the VIII semester were prepared, circulated and implemented.

IN-HOUSE INTERNSHIP

- The flexible curriculum has provision of 3 mandatory internships. Two internships are being conducted in-house and one at a relevant industry during the summer vacations.

S.No.

Detail

Hours

Year of Internship

Evaluation

1.

Summer Internship Project-I (Institute Level)

60 Hours

First Year

III Semester

(02 Credits)

2.

Summer Internship Project-II (Soft Skills)

90 Hours

Second Year

V Semester

(03 Credits)

3.

Summer Internship

Project -III (On Job Training)

150 Hours

Third Year

VII Semester

(02 Credits)

**IN-HOUSE INTERNSHIP MODULES DEVELOPED/OFFERED DURING
THE LAST 4-YEARS**

■

1.

1.

1.

1.

•

484 students

(42 Modules)

874 Students

(36 Modules)

953 Students

(33 Modules)

1068 Students

(29 Modules)

•

•

451 Students

(Soft-skills Module)

980 Students

- Soft-skills Module)

1045 Students

(07 Modules)

Finishing School

-
-

731 students

(15 Modules)

893 students

(16 Modules)

FULL SEMESTER INTERNSHIP (Final Semester)

- The provision of internship for the full duration of the 8th semester has started for the 2017-18 admitted batch.
- To draft a clear policy and guidelines for the same a committee was constituted.
- The draft policy was prepared and reviewed by the SDC, ADC and IQAC. The key points include:
 - One mentor to be approved from concerned industry, one from institute
 - Weekly attendance to be forwarded by external mentor to institute mentor
 - Mid-semester exam to be permitted on MOODLE
 - About Five numbers of quiz to be conducted in each course on MOODLE
 - Assignments to be submitted every week on MOODLE
 - Presentations (in group) on each unit to be facilitated through skype

The rough scheme and structure is presented below

Approved Structure of Undergraduate Engineering Program

(2017-2018 to 2019-2020 admitted batches)

S.No.

Category

Suggested Breakup of

Credits

by AICTE

Component wise credit allotment**

No.

No. of Courses

Weightage

(Percentage)

1

Humanities and Social Sciences including Management Courses (HSMC)

12**

12

04

7

2

Basic Science Courses (BSC)

25**

20

05

11.7

3

Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc. (ESC)

24**

21

06

12.3

4

Departmental Core Courses (DC)

48**

52

13

30.6

5

Departmental Elective Courses relevant to specialization/branch (DE)

18**

20

06

11.8

6

Open Category- Electives from other technical and /or emerging subjects (OC)

18**

15

05

8.9

7

Project work, seminar and internship in industry or appropriate work place/ academic and research institutions.

(DLC/SWAYAM/NPTEL/MOOC)

15**

22

13

13

8

Mandatory Course (MC)

-

08

03

4.7

Total

160**

170

55

100

**Discipline specific minor variations possible

1. Evidence of Success:

- Flexible curriculum, based on the AICTE Model Curriculum-2018 was implemented in the institute w.e.f July 2018 for the 2017-2018 admitted batch.
- One cycle of flexible curriculum is now about to complete with the graduation of the 2017-2018 admitted batch in June 2021.
- The provision of 'Credit transfer from MOOCs was implemented w.e.f. 2017-18 admitted batch, from V semester for minors/honours cases, i.e. since July-December 2019.
- Since then, two batches 2017-18 admitted and 2018-19 admitted have been benefitted by this. The total credits transferred is shown below in the table.

Summary of No. of Credits Earned through MOOCs

BRANCH

2017 ADMITTED STUDENTS

2018 ADMITTED STUDENTS

TOTAL

J.20

D.20

J.21

J.20

D.20

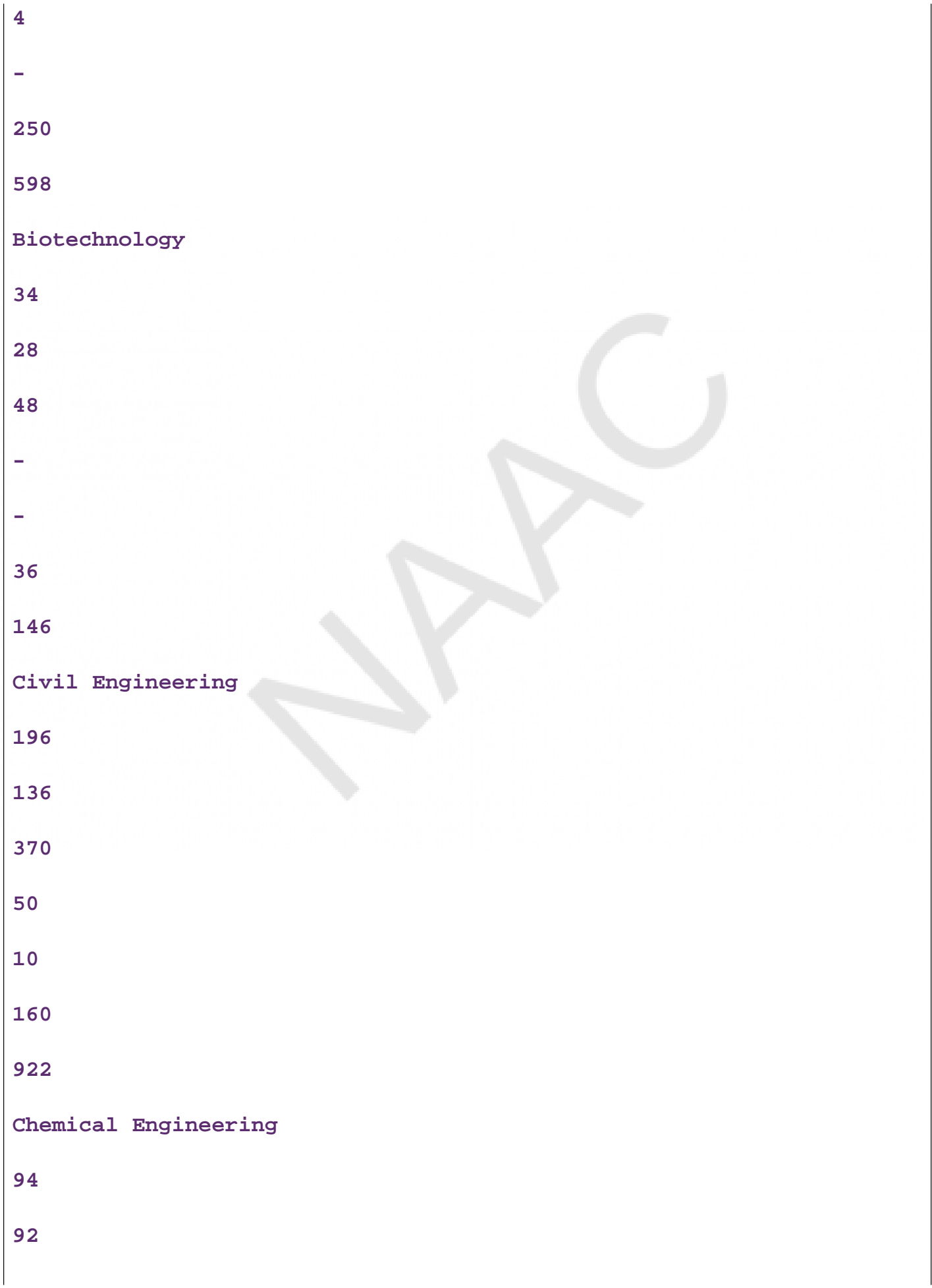
J.21

Automobile Engineering

100

70

174



188

6

6

20

406

Computer Science & Engineering

214

178

416

46

26

82

962

Electronics Engineering

218

180

364

18

6

484

1270

Electrical Engineering

200



186

398

40

30

608

1462

Electronics & Telecommunication

108

88

154

-

-

232

582

Information Technology

110

90

188

16

16

24

444

Mechanical Engineering



196
180
364
42
38
486
1306
TOTAL
1470
1228
2664
222
132
2382
8098



- For the first time in the state of Madhya Pradesh, under the Flexible Curriculum, Minors/Honors degrees are awarded to students of the 2017-2021 batch, details below.

ADDITIONAL MINOR SPECIALIZATION IN ALLIED BRANCH

- **HONORS DEGREES IN PARENT BRANCH**

AWARDED ALONG

WITH

B.Tech IN PARENT ENGINEERING DISCIPLINE

Degree/Specialization

No. of students

Branch-wise Break-up

B.Tech Degree with Minor Specialization in CSE

11 students

ME: 03, AU: 02, EC: 02 , ET:02, BT:02

B.Tech Degree with Honors

25 Students

ME:13, AU:01, IT:02, EE: 04, EC: 01, CSE:03, ET:01

1. Problems Encountered and Resources Required:

- The Flexible Curriculum is not implemented in any of the technical institutes/universities of the state of Madhya Pradesh.
- MITS is an autonomous institute under UGC and has academic autonomy from the state technical university, RGPV, Bhopal.
- The institute had to conduct a large number of meetings pre and post Academic Council since 2018 in order to get the Flexible Curriculum approved by the university so that degrees can be awarded to eligible students.
- Students had large number of queries regarding the elective courses (DEs & OCs), provision of Minor Specialization & Honors and mandatory credits from MOOCs.
- Due to COVID and two lockdowns, sometimes the students could not appear for the proctored examinations of the mandatory MOOCs. The institute then provided alternate solution for the same, under the provisions of the SWAYAM-NPTEL
- The administration, class coordinators and Heads of Departments organized many orientation sessions, counselling sessions and open houses for motivating the students and creating awareness about the Flexible Curriculum.
- However, the efforts succeeded and students took advantage of the provisions of flexible curriculum.

1. Notes (Optional)

- The Flexible Curriculum was implemented w.e.f from 2018-19 to the batch of students who were admitted in 2017-18.
- Since then, every year, as the batch moved from II year to IV

year, new provisions of the 'Flexible Curriculum' came into existence and detailed guidelines were prepared for the smooth implementation of these provisions, each year.

- The Flexible Curriculum has completed one full round now successfully and since 2020-2021 admitted batch, some of the NEP-2020 concepts are also integrated in this curriculum.

File Description	Documents
Best practices in the Institutional website	https://mitsgwalior.in/bestpractice.php
Any other relevant information	https://www.mitsgwalior.in/login/upload/Digital%20Leraning%20Action%20Plan%202020.pdf

7.3 - Institutional Distinctiveness

7.3.1 - Highlight the performance of the institution in an area distinct to its priority and thrust (within a maximum of 200 words)

Inculcating self- learning capability in graduates is one of the most important challenge in the present times when technology is changing very fast. By the time students are out of the campus, new areas might have popped up which were not learnt during the U.G.programme. MITS realized the importance of this in 2017-2018 itself and MOOCs were made mandatory in the curriculum. The institute also launched an initiative to start in-house MOOC development by establishing a state-of-the-art Digital Studio on 30thNovember 2019. The studio is equipped with a soundproof recording room and production control room (PCR), latest recording facilities such as Grid Lighting System, 4K camcorders, Audio System, Video Switcher, ceiling mounted Document Camera, Projector, Pen tablet, Recording and Streaming Server, Optical Storage, GRAID Storage, Video Editing System and licensed editing software.

A few MOOCs are complete (Introduction to Computer Programming, Solar PV System: Design & Economics, Python Programming, Cyber Security, Industrial Automation and Embedded Systems) and these are being offered on the MITS-MOOC platform. The response of students has been very good about the quality and standard of these courses. In the second phase, sixteen courses have been identified which are in different stages of recording and development

Additional information at : <https://mitsgwalior.in/moocs.php>

File Description	Documents
Appropriate link in the institutional website	https://mitsgwalior.in/moocs.php
Any other relevant information	No File Uploaded

7.3.2 - Plan of action for the next academic year

- (i) To become a degree granting autonomous institute
- (ii) Applying to NAAC for the second cycle of accreditation
- (iii) NBA Accreditation of all eligible under graduate programs.
- (iv) NABL Accreditation of Laboratories.
- (v) Branding & offering MITS-MOOCs to other Institutes
- (vi) Development of Virtual Reality Labs
- (vii) Completion of ongoing infrastructure work (state of the art labs & academic block)
- (viii) Facility for up skilling of working professionals/ corporate training programmes
- (ix) Launching an 'MITS-Industry-Alumni Cell'
- (x) Strengthening collaboration with foreign universities
- (xi) Building collaborations with research organizations/ prominent institutions for external mentorship
- (xii) Establishment of a recognized Calibration Centre
- (xiii) Development of Business Development Centre
- (xiv) Establishment of a Business Incubation Centre for incubating start-ups
- (xv) Launching certificate courses/programmes in collaboration with industry
- (xvi) Strengthening industry collaboration for internship/ placement and joint research

(xvii)Registration in Academic Bank of Credit (ABC) {to honour credits earned by an individual from various institutions /platforms}

NAAC