A

Report

On

1. **In-house Workshop of Stakeholder's Feedback**
2. **In-House Workshop of Enhancing Alumni Interaction**
3. **In-house Workshop on Exam Reforms**

AT DEPARTMENT LEVEL

UNDER

I Q A C

Internal Quality Assurance Cell
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

Internal Quality Assurance Cell

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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

Race Course Road, Gola Ka Mandir, Gwalior, M.P. 474005

Website: www.mitsgwalior.in

The objectives were to:
- *Review the latest feedback data and suggestions collected on **Course Content & Curriculum** from students, Faculty, Alumni & Employers*
- *Uniformity in analysis: development of a 5 point index*

- ***Implementation & effectiveness of the exercise in curriculum development***

Madhav Institute of Technology & Science, Gwalior
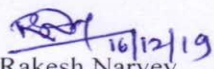(A Govt. Aided UGC Autonomous & NAAC accredited Institute Affiliated to RGPV, Bhopal)

Date: 16.12.2019

In-house workshop on stakeholder's feedback

Report

The following points were discussed by various faculty participants during the in-house workshop on curriculum feedback by students & faculty and parent satisfaction survey:

- Feedback analysis should include three best & three worst comments.
- The order of the options for each question in the feedback template must be reversed, ie; 5, 4, 3, 2, 1 instead of 1, 2, 3, 4, 5.
- The parents' mobile number must be used for taking the parent satisfaction survey on which a message containing the link for the feedback can be directly sent to the parent without involving the student in between.
- All the feedbacks should have a uniform index scale of 1 – 5.
- The comments in the feedback should be taken into consideration and the course content should be modified (if necessary) 5 – 10 % during the Board of Studies Meeting.
- A sample size containing 40 – 50 % of the class strength must be considered for analysis of the feedback.
- The curriculum related feedbacks must be taken before the BoS meetings well in advance.
- In the parent's feedback some relevance points should be included e.g., "The proper interaction between you and ward regarding his status in the class and institute", "Whether are you aware about the attendance of the ward in respective classes?" etc.
- The representation of the feedback should be in same format for every department.

16/12/19
Prof.Rakesh Narvey
Workshop , Coordinator

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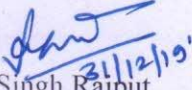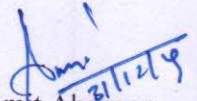(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Date:31-12-2019

In-house Workshop on Enhancing Alumni Interaction

Report

As per the note sheet order no. 1034, dated 06 Dec. 2019, from Dean Academics and Director office, a in-house workshop has been conducted on Enhancing Alumni Interaction and the following points were discussed:

1. Attached, structure & process of Alumni interaction which will be followed with the help of various departments.

2. Centralized portal should be prepared which will be a live interactive portal to connect with Alumni for different activities like Job openings, opportunities available etc. and to get registered all Alumni.

3. Centralized social media connectivity through official pages.

4. An Alumni card should be issued at the time of final exit or exit survey. Also, at the same time student should be connected on Alumni social official pages and should get registered on the online Alumni portal of the institute.

5. All faculty members have suggested to arrange Alumni meets or reunion at least once in a year batch wise or together for 3-4 batches from Institute side.

6. Team will maintain Database of Alumni since inception.

7. Summer Internship Applications format will be uploaded online, which will be submitted by students to T&P Cell with faculty or Internship coordinator's signature to get NOC from T&P Cell or same process can be done online through IMS portal.

8. Provision for 6 month's authentic Internship or projects briefing should be given to students by faculty in-charge in-each department. And, process for the same.

9. Two student coordinators will be appointed for Internship & Alumni faculty coordinators with Director's permission.

Mr. Vikram Singh Rajput
(Training & Placement Officer)

Dr. Amit Aherwar
(Workshop coordinator)

Enclosed:- 1) Structure and Process to Alumni interaction.

2) Student Internship Application form for NOC.

3) Attendance sheet

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CIVIL ENGINEERING DEPARTMENT

Date: 03.02.2020

Report of In-house Workshop on Exam Reforms

An In-house Workshop was conducted on Friday, 31st January 2020 to discuss the AICTE Exam Reforms policy and review the End Semester Exam Question papers (Nov-Dec 2019) of U. G. program in Civil Engineering in presence of faculty members of the Department. In this workshop the following points were discussed:

1. Introduction to AICTE Exam Reforms policy:
   OBE coordinators of the Department gave a briefing about the new AICTE exam reforms policy and introduced the concept of mapping the question paper with Bloom's level and PO/PSOs.

2. In connection with AICTE exam reforms policy, Dr. Rajeev Kansal attended a workshop recently and he shared the knowledge gained in this workshop with the faculty members of the Department.

3. Question paper analysis based upon LOTS and HOTS:
   The format prepared by the team for question paper analysis based upon LOTS and HOTS was discussed and finalized in the meeting. The OBE coordinators discussed the model analysis along with mapping for a sample question paper of End semester exam.

4. Based upon this analysis, the faculty members carried out the question paper analysis of End semester exam of U. G. Civil Engineering (1st, 3rd, 5th and 7th semester). The compiled report of the analysis is attached as Annexure 1.

5. The existing question paper pattern was discussed and it was felt that for non-Design based courses, a new question paper template may be proposed in such a way that a particular section containing few questions will be of LOTS and the remaining sections will contain questions in such a way that the overall LOTS percentage will not exceed 40%. The proposed question paper template is attached as Annexure 2. It was also decided that for questions having sub-parts, proper marks division for each part should be clearly mentioned along with the question.

(Prof. Nupur Verma)
OBE Coordinator, C.E.D.

(Prof. Aditya K. Agarwal)
OBE Coordinator, C.E.D.

(Dr. M. K. Trivedi)
H.C.E.D

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
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Department of Mechanical Engineering

Report of In-house Workshop on "Exam Reforms"

An in-house workshop on 04th of February, 2020 was conducted by Department of Mechanical Engineering on the topic "Exam Reforms" in the office of the HMED.

The main objective if the workshop was to create awareness among the faculty members about the new age Examination Reforms based on Outcome Based Education. The previous semester question papers were discussed and the percentage of LOTs and HOTs were identified.

After indentifying the percentage of LOTs and HOTS a new pattern of question paper was proposed which aims at maintaining the balance between LOTs and HOTS. The proposed question paper contains LOTs questions to a maximum of 40% of the total marks and HOTs questions to a minimum of 60%.

The first session **SESSION 1** was taken by Dr. Pratesh Jayaswal from 11:00 am – 12:00 pm. In this session he shared his views on the need of exam reforms. He stressed on the point that the question papers that require simple memory recall will not ensure deep, meaningful learning and hence we need to design tools which could helps us to ensure deep learning of the subject for students.

He said that the absence of proper mapping between program outcomes and assessment tools lead to the inaccurate and unreliable measurement of attainment of outcomes by the students. This missing connect creates a big gap in the effective adaptation of OBE framework, making

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Department of Mechanical Engineering

the whole exercise futile. In the present examination system, memorization occupies a dominant place. The recall of factual knowledge, though essential to any examination, is only one of several major abilities to be demonstrated by the graduates. The assessment process must also test higher level skills viz. ability to apply knowledge, solve complex problems, analyze, synthesize and design. Further, professional skills like the ability to communicate, work in teams, lifelong learning have become important elements for employability of the graduates. It is important that the examinations also give appropriate weightage to the assessment of these higher-level skills and professional competencies.

The second session **SESSION 2** was taken by Mr. Ajay Singh Rajput from 12:00 pm – 1:00 pm. In this session he discussed in detail about Outcome Based Education. He cleared the doubts among the faculty's regarding mapping of course outcomes with program outcomes and how it is different from question paper mapping with the program outcomes. He pointed out various issues in assessing the entire graduate attributes with the help of question paper only and what other tools we need to use from now on. The faculty members were made aware about various terminologies introduced in exam reforms to map program outcomes with question papers. He showed program outcomes with their competency and Indicators needed to use by the faculties to map question papers.

The third session **SESSION 3** was taken by Mr. Vaibhav Shivhare from 2:00 pm – 3:00 pm. In this session he discussed different levels Blooms Taxonomy and how we have to use them in designing the question paper. He stressed out on the point that the percentage of low order thinking questions should be less than 40%. He showed various sample of question papers given

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Department of Mechanical Engineering

by the AICTE in the exam reforms. He also discussed about the use of Rubric to assess students for different activity and how to map them with program outcomes.

The final session **SESSION 4** was taken by Dr. C.S. Malvi from 3:00 pm – 4:00 pm. In this session he discussed various possible patterns for setting question paper which will ultimately fill all the required needs. The new question paper pattern that was proposed contains a healthy mixture of LOTs and HOTs and the also a sample copy of the proposed question paper is attached herewith.

Mr. Ajay Singh Rajput

(OBE Coordinator)

Mr. Vaibhav Shivhare

(NBA Coordinator)

Dr. M.K. Sagar

(HMED)

Madhav Institute of Technology & Science, Gwalior
Department of Electrical Engineering

326
05.02.2020

Report for Paper Review (End Semester Examination, November-December 2019)

The department of Electrical Engineering has analysed/reviewed the standard of the question paper based on Bloom's Taxonomy for Examination November-December 2019 and the complied report is submitted as follows:

Sr No	Subject Name	Subject Code	LOTS (%) (Lower Order Thinking Skills)	HOTS (%) (Higher Order Thinking Skills)	Signature
1.	Basic Electrical & Electronics Engineering	100104	66	44	
2.	Energy, Ecology, Environment & Society	100202	82	18	
3.	Electromagnetic field theory	130301	50.47	49.53	
4.	Measurement and Instrumentation	130302	63.80	36.20	
5.	Network Analysis	130303	28.5	71.5	
6.	Analog Electronics	130304	64	36	
7.	Signals & Systems	130501	48.57	51.43	
8.	Power System II	130502	34.28	65.72	
9.	Electrical Machine II	130503	37	63	
10.	Power Electronics	130504	71	29	
11.	Electrical Drives	BEEL701	78.09	21.91	
12.	Switchgear & Protection	BEEL702	73.33	26.66	
13.	Computer Aided Power System	BEEL703	46	54	
14.	Power System Economics	BEEL704	53.33	46.66	
15.	Energy Audit & Management	BEEL705	44.7	65.3	

Dr. L. Srivastava
4/2/2020
Prof. & Head, EED

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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Department of Electronics Engineering

Date: Jan 25, 2020

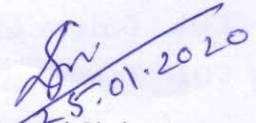## Report

A workshop to discuss, analyse, and review the existing end semester question paper was held in HOD office on 25.01.2020. In the workshop following points were discussed:

- The question paper must be mapped with CO's, Bloom's Taxonomy and PO's.
- Questions starting with "wh" should be avoided.
- Uniformity of CO distribution was discussed.
- Percentage of HOT and LOT in the question paper was discussed and it was suggested that LOT should not be more than 40% and HOT 60% of total marks assigned to the question paper.
- Question paper style of different universities and institutes have been thoroughly analysed and discussed for suitability.
- Taking into consideration above facts, the Question Paper Pattern was proposed which has been enclosed along with this report.

Dr.Vandana VikasThakare
OBE Coordinator

25.01.2020

Dr. Laxmi Shrivastava
In-charge Head

Report

on

"Internal workshop to discuss and analyze the end semester examination question paper and propose a new question paper pattern"

Dated: 1st February, 2020

With reference to above mentioned title and order (Ref. No.5848 dated 24.01.2020) from Head of Department, CSE & IT, the internal workshop was conducted by the CSE&IT department form 10:30 AM onwards in the IBM – 2 Lab according to the proposed schedule. In the workshop following below mentioned points were discussed:

1. The workshop was initiated by **Dr. Akhilesh Tiwari** (Head of Department, CSE&IT). He gave a detailed view on AICTE's Exam reform policy (which was proposed in November 2018). He also quoted that Evaluation, grading and certification in our system rest on examinations which play an important role in the progression of a learner on the learning path. The examinations not only indicate whether the desired learning outcomes have been achieved but also assess the level of achievements against benchmarks. Thus, examinations serve as checkpoints for both the learner and the external world, allowing appropriate certification to be issued reflecting the employability towards industry and other related fields. Adding to this, he said that, the AICTE's exam reform policy comes at a time when knowledge is freely available for creating resources, opportunities for more knowledge, which requires skill of higher order beyond remembering and comprehension. This policy intends to push the evaluation notches up on the Bloom's taxonomy and examine the learner for higher order cognitive skills to drive critical thinking, creativity and problem solving which have to be the attributes of any technical professional. Thus, the main motive of the workshop will be, to understand the proposed AICTE's exam reform policy, what are its benefits of implementing and how this can upgrade the end semester exam paper pattern, and finally proposed new question paper for end semester examination for the institute.

2. After Dr. Akhilesh Tiwari, **Dr. Pratesh Jayaswal** (Academic Coordinator TEQIP-III) continued the discussion by highlighting the major problems in Indian engineering education and various challenges faced in 21st century education. These challenges lead to the development of AICTE's exam reform policy. Also, he gave an insight on graduate attributes, which we are able to achieve and where we are lagging. The discussion also included program structure for 21st century, which included Programme Educational Outcomes (PEOs), Programme Outcomes (POs), Programme Specific Outcomes (PSOs), Course Outcomes (COs), their dependence on each other and how they can be achieved. He also mentioned that, in the present examination system, memorization occupies a dominant place. The recall of factual knowledge, though essential to any examination, is only one of several major abilities to be demonstrated by the graduates. The assessment process must also test higher level skills viz. ability to apply knowledge, solve complex problems, analyse, synthesise and design. Further, professional skills like the ability to communicate, work in teams, lifelong learning have become important elements for employability of the graduates. It is important that the examinations also give appropriate weightage to the assessment of these higher-level skills and professional competencies. Keeping in view of the above challenges and looking at some of the worldwide best practices in assessment, the Exam Reforms policy comes up with several recommendations that can be used by Universities/ Colleges to design their assessment strategies. The main objective of Exam reform policy is that – "The final exams being conducted by the institutions shall test the understanding of the concepts and the skill - rather than the subject knowledge". Using different assessment methods to assess higher order and professional skills like course projects, open-ended experiments in labs, project based learning modules, MOOCs, Co-curricular experiences, Mini/Minor projects, final year projects, internship experiences, E-portfolio of student works, we can achieve this objective. Thus, the question papers needs to go beyond memory recall to higher order abilities and skills, and a wide range of assessment methods need to be employed to match with learning outcomes. He also explained the new concepts like

competencies and performance indicators for each PO, described their importance, how a single PO can have multiple competencies and each competency can be achieved by various performance indicators, which can then be tested by assessments. He also presented a model question paper proposed in AICTE's

Exam reform policy and explained the benefits of incorporating the Bloom's Level, CO, PO and PI in each question, and finally describing the proportion of each CO and Bloom's Level distribution in the question paper.

3. After this **Dr. Sunita Sharma** (HOD, Biotechnology) mentioned that, Normally the first three learning levels; remembering, understanding and applying and to some extent fourth level analysing are assessed in the Continuous Internal Evaluation and Semester End Examinations , where students are given a limited amount of time. And abilities like: analysis, evaluation and creation can be assessed in extended course works or in a variety of student works like course projects, mini/ minor projects, internship experience and final year projects. A good and reasonable examination paper must consist of various difficulty levels to accommodate the different capabilities of students, testing the different cognitive skills without a tilt towards a tough or easy paper perception. If the present examination questions are more focused towards lower cognitive skills, conscious efforts need to be made to bring in application skills or higher cognitive skills in the assessment. It is recommended that at institution/ University level, upper limit need to be arrived for lower order skills (for example, no more than 40% weightage for knowledge-oriented questions). It is important to note that, as nature of every course is different, the weightage for different cognitive levels in the question papers can also vary from course to course. To evaluate the higher order thinking in the students, utmost importance to have reliable methods / proper assessment tools. Rubrics provide a powerful tool for assessment and grading of student work. They can also serve as a transparent and inspiring guide to learning. Rubrics are scoring, or grading tool used to measure a students' performance and learning across a set of criteria and objectives. Rubrics communicate to students (and to other markers) your expectations in the assessment, and what you consider important.

4. After her, **Mr. Mir Shahnawaz Ahmad** explained the Bloom's taxonomy and mentioned that, Bloom's Taxonomy provides an important framework to not only design curriculum and teaching methodologies but also to design appropriate examination questions belonging to various cognitive levels. It attempts to divide learning into three types of

Domains: cognitive, affective, and behavioural and then defines the level of performance for each domain. Conscious efforts to map the curriculum and assessment to these levels can help the programs to aim for higher-level abilities which go beyond remembering or understanding, and require application, analysis, evaluation or creation. He also described various action verbs that can be used for framing a question and describing what bloom's level it belongs to.

5. **Dr. Sanjiv Sharma** described the importance of CO and PO. He mentioned various methods of creating correct COs for a particular subject and explained how they lead to the attainment of POs. His discussion was mainly focused on how to frame COs and advised the participants for periodic refinement of CO statements of their respective subjects.

6. At the end of workshop various teams of participants were formed and a group based activity was performed, which explained various recommendations of AICTE's exam reform policy, what they are already doing and what new things they can implement which they have

learnt from the proposed policy. Also, each team proposed a End semester paper pattern according to the suggestions in the AICTE's Exam reform policy.

Some Glipses of the workshop:

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Department of Chemical Engineering

Minutes of Workshop

Ref. No.: 1113, dated 24/01/202   Date: 30/01/2020

A workshop was conducted on 30/01/2020 from 12:00 PM to 01:30 PM in the department. The workshop was chaired by the coordinator of the department.

Agenda of the workshop: To discuss, analyze and review existing end semester examination question papers.

During the workshop following were present:-
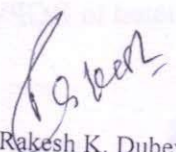
1. Prof. Swati Gupta
2. Prof. Anish P. Jacob
3. Dr. Sachin R.Geed
4. Dr. Kulbhushan Samal
5. Dr. Arti Sahu
6. Dr. Antaram Sarve
7. Prof. Pratap Singh
8. Dr. Rakesh K. Dubey
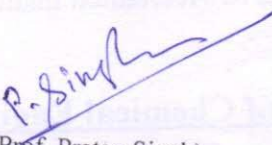
Following points were discussed:-

1. All the faculty members discuss & reviewed the question paper analysis of the previous end semester examination.
2. The percentages of LOT & HOT were listed by Dr. R.K. Dubey for all courses in the question paper.
3. The POs and Bloom's learning levels were mapped for each question paper by Prof. Anish P. Jacob and reviewed.
4. The present question paper pattern was also reviewed & scope of modification was discussed.
5. The unit wise bifurcation should be removed for adequate syllabus coverage in framing the question paper.
6. A new question paper format was also proposed as: 10 questions (multiple choice, fill in the blanks, match the column) of 1 marks each, 5 very short answer type questions of 2 marks each, 5 short answer questions of 3 marks each, & 5 long answer questions of 7 marks each with choice.
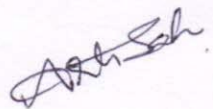
Workshop ended with vote of thanks to everyone for their contribution.
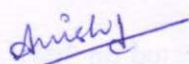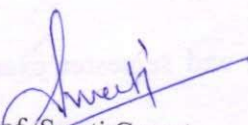
(Dr. Rakesh K. Dubey) (Prof. Pratap Singh) (Dr. Antaram Sarve) (Dr. Arti Sahu)

(Dr. Kulbhushan Samal) (Dr. Sachin R.Geed) (Prof. Anish P. Jacob)

(Prof. Swati Gupta)
Co-ordinator

To,

Dean Academic

Madhav Institute of Technology & Science, Gwalior
Department of Biotechnology

Feb03, 2020

Report

Reference: Dean Academics/1113 Dated: 24.01.2020

To discuss, analyze and review the existing End Semester Examination Question Papers (along with LOTs HOTs questions distribution) and to propose a Question Paper Pattern (for Dean, Academics), an inter-department workshop was held today. The faculty members of the department attended the workshop in first half with Department of CSE & IT.

The workshop was started with the lecture of Dr. Akhilesh Tiwari, Professor & Head, Department of CSE & IT. He discussed the significance of the change in Assessment methods in Engineering Education. He emphasized on the outcome based assessment strategies which can make the graduates employable in the global market.

Second session was taken by Dr. Pratesh Jayaswal, Professor, Department of Mechanical Engineering. He explained the AICTE mandate towards exam reform policies and the attainment of vision, mission, Program Outcomes of the Department by mapping with performance indicators against various COs of the courses.

Later, Dr. Sunita Sharma, Coordinator, Assistant Professor, DBT delivered a lecture on *"Assessing Higher Order Abilities & Professional Skills"*. She mentioned the recommendations for acquiring higher order abilities and Professional skills as graduate attributes defined by NBA.
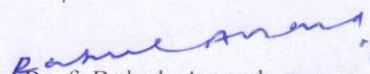
In the last session, Prof Rahul Anand coordinated the analysis of End Semester Examination Question Papers with reference to Bloom's Level and percentage of Course Outcomes. Emphasis was given on the proper usage of Bloom's Taxonomy for the designing of question papers. The model AICTE question papers format was discussed. All the faculty members participated with zeal and fervor.
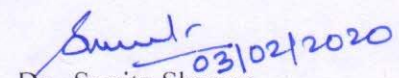
At the end of the workshop, new question paper pattern was proposed by Dr. Sunita Sharma and Rahul Anand which consists of two sections A & B.

Section A will have 10 short answer type questions of 2 marks each. It will cover all COs and 50% questions LOTS and 50% HOTS type of questions may be asked.

The section B will of 50 marks (5 questions x10 marks each) with internal choice in all five questions. This section will cover all COs. and 02 questions will be LOTS and 03 questions will be HOTS. (Sample copy of model question paper is annexed.).

At the end of the workshop, an activity was assigned to faculty members based on AICTE examination reform policy 2018.

Prof. Rahul Anand Feb 03, 2020
Assistant Professor
OBE Coordinator , DBT

Dr. Sunita Sharma 03/02/2020
Assistant Professor
Coordinator , DBT

Following participants attended the workshop and completed the activity and mailed to biotech@mitsgwalior.in

1. Vinod K Jatav, Assistant Professor
2. Vishal K Ranjan, Assistant Professor
3. ShikhaJha, Assistant Professor
4. DrRadhika R, Assistant Professor

Annexure:

1. Activity of the workshop
2. Suggested Question Paper Pattern
3. Photos of Workshop

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Date : 30.01.2020

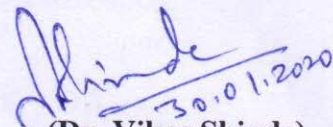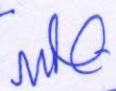## DEPARTMENT OF APPLIED SCIENCE

REPORT

Report of the In-house workshop conducted in the department with reference to notice no 1113 dated 24.01.2020 .

The following points were discussed:

- Mapping of End. Sem. question paper (July-December 2019) with COs, Bloom's learning level and POs.
- Discuss the percentage of LOTs & HOTs in the paper.
- Question papers for the semester Exam held in Nov-Dec 2019 have been mapped with COs.
- The questions have been framed in accordance with LOTs and HOTs.
- The faculties have gone through exam reform policy 2018 provided by AICTE. Wherein, the question paper setting is rigorously explained according to Bloom Taxonomy. Simultaneously Bloom's Level, COs, POs, have indicated in front of every particular questions. Accordingly it is also planned to mention the PI code against every question.
- It was discussed with reference to the Workshop held earlier at Institute level in 13th and 14th August 2019 where in it was proposed that for first year students the proportion of LOT should by higher that HOT as the Bloom's Taxonomy needs to be applied in stages and since we teach fundamental courses to First year students hence the percentage of LOT needs to be at the higher side. Thereby it was resolved that nearly 60% weightage be given to LOT and HOT objectives.
- Keeping the above in mind a question paper pattern is proposed. – ?

30.01.2020

(Dr. Vikas Shinde)
Professor & Head

Separate
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MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR

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

Date: 30.01.2020

Sr-No. 2888

Department of Humanities

Report of the In-house workshop conducted in the department with reference to notice no 1113 dated 24.01.2020

The said workshop was conductedin association with Applied Science Department on 25/01/2020 and following points were discussed:

- Mapping of End. Sem. question paper (July-December 2019) with COs, Bloom's learning level and POs
- Discuss and finalise the incorporation of the percentage of LOTs & HOTs in the paper
- Question papers for the semester Exam held in Nov-Dec 2019 were mapped with COs
- The questions have to be framed in accordance with LOTs and HOTs in addition to the present practice and in accordance to the guidelines provided.
- The faculties have gone through exam reform policy 2018 provided by AICTE. Wherein, the question paper setting has been elaborated in pursuance of Bloom Taxonomy. Simultaneously, Bloom's Level, COs, POs, have been indicated in front of every particular questions. It is also decided that PI code will be mentioned against every question.
- It was discussed here as well as in the Workshop held earlier at Institute level on 13th and 14th August 2019 wherein it was proposed that for first year students the proportion of LOT should by higher that HOT as the Bloom's Taxonomy needs to be applied in stages and we teach fundamental courses to students who require to grasp the concept more than elaborating it, hence the percentage of LOT is set to be at the higher side. Thereby it was resolved that nearly 60% weightage must be given to LOT and HOT objectives.
- Keeping the above in mind a question paper pattern is proposed.

01 feb 2020

Sanjeev Khanna
I/C Head

MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE, GWALIOR

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CIVIL ENGINEERING DEPARTMENT

A one day in-house workshop on innovative & interactive teaching learning practices in Civil Engineering was organised in the seminar hall of the department on 15th Feb. 2020.

The faculty members of the civil engg. Department attended the workshop.

Following points were discussed in details. Views/feedback of the faculty members an various aspects of teaching learning practices were taken and recorded.

All faculty members are mostly adopting lecture method for teaching and sometimes using other methods like group discussion, presentation by the students, case study, seminar etc. One of the faculty members suggested that for other type of classes like group discussion, flipped classes duration of class should be more than 1 Hour.

All faculty members are using common ICT tools like call phone, laptop and on line lectures and videos. Some of the faculty members are also using software for teaching to make students learn the subject better. It was also informed by one of the faculty members that on engineering subjects Lecturer & useful material is communicated on T.V. channels, for example channel 11,12,15.

It is reported by faculty members that MOODLE is very effective in managing course content and assessment of students is also effective.

It was also reported that when quiz is conducted for award of marks about 75 to 90% students participates but if the MOODLE quiz is only for assessment of progress of students generally less than 50% students participates.

18/2/20
Prof. A. Tiwari
Organiser Prof., CED

18/02/20
Dr. M.K. Trivedi
Convenor & Head, CED

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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Department of Electronics Engineering

A report on one day workshop entitled **"Innovative Teaching Learning Practices in the Department of Electronics Engineering"** organized on 1st Febrary 2020.

REPORT

A one day workshop entitled **"Innovative Teaching Learning Practices in the Department of Electronics Engineering"** was organized by the Department of Electronics Engineering, MITS Gwalior on 1st February 2020. The department has invited to **Dr. Shahanaz Ayub**, Associate Professor and Dean R&D, Bundelkhand Institute of Engineering and Technology, Jhansi, as an external expert.

Objectives: The main objective of the workshop was to make the faculties aware of various innovative teaching strategies that improve student engagement in the class by making it more interactive.

Following topics were covered in the workshop:

1. Dr. Shahanaz Ayub has enlightened about different modern teaching learning practices. The theory of education has two levels:
   (i) Macro- Level: At this level **"education-society"** relationship, decentralization and diversification, internationalization of education, and the introduction of digital technologies occur.
   (ii) Micro- Level: This level mainly focused on **"teacher-learner"** relationship, there is an active mix of traditional and innovative methods, combination of an activity approach with an energy-informational environment approach.
2. Dr. P.K.Singhal has elaborated the modern teaching learning practices to make the class more interactive and active participation of all students. Speaker has discussed various techniques such as "Problem based learning", "Inquiry based learning", "Project-based learning". All these techniques effectively involve the students in the class which helps them to get the information in a more efficient way.
3. Dr. Vandana V. Thakre has discussed the use of ICT tools in the classroom to work on information processing, authentic communication, and on the learner autonomy, as the builder of his or her own learning process.
4. Dr. Rahul Dubey has enlightened about Flipped classroom is an active, student-centred approach that was formed to increase the quality of period within class. Flipping the is a "pedagogy-first" approach to teaching in which course materials are introduced outside of class, and within the class time is utilised for inquiry, application, and assessment in order to better meet the needs of individual learners.
5. Mr. Deep Kishor Parsediya has discussed about Departmental Elective subjects. Speaker has explained how to guide the students in DE subjects.
6. Mr. Saurabh Raghuvanshi has explained about learner centric classes which is needed for greater efficacy and better retention on the learner's end, courses need to be customized for more personalization.
7. Mrs. Pooja Sahoo has discussed about the use of Moodle in teaching.

8. Dr. Karuna Markam has enlightened about various ways of promoting gender equality in the classroom has been discussed such as using gender neutral languages when appropriate, being reflective being objective etc.

9. Mr. Rakesh Naik has discussed about the importance of Lab session for engineering students, how to related theory classes with lab session in order to make the subject more interesting.

Dr.Vandana V. Thakre
OBE Coordinator

Dr. Laxmi Srivastava
I/C HoD
Department of Electronics Engineering

Madhav Institute of Technology and Science, Gwalior

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Department of Computer Science & Engineering and Information Technology

Report

of

ONE DAY IN-HOUSE WORKSHOP

ON

"INNOVATIVE & INTERACTIVE TEACHING LEARNING PRACTICES"

Dated: 15st February, 2020

Madhav Institute of Technology and Science, Gwalior

Department of Computer Science & Engineering and Information Technology

With reference to the above mentioned title and order (Ref. No. 09 dated 22.01.2020) from the Director, MITS, the internal workshop was conducted by the CSE&IT department from 11:00 AM onwards according to the proposed schedule. Below is the point by point detail of the workshop:

1. The workshop was initiated by the introductory speech of **Dr. Akhilesh Tiwari** (Head of the Department, CSE&IT). He explained the purpose and objective of the workshop. He mentioned that when we think of innovation nowadays, we usually think of technology. However, in a field such as education, it's just as important to focus on innovations in areas such as psychology, learning theories, and teaching methods. There are many areas where innovations in education will help to improve the system for everyone.

2. After Dr. Akhilesh Tiwari, **Mr. Rahul Anand** (from the department of Biotechnology) highlighted various practices followed at institute level on MOODLE for enhancing the quality of teaching. Besides discussing various practices like providing study material, taking attendance, Assignments and Quizzes on MOODLE, he also shared new ideas like "calculated MCQs" for improving the quality of quizzes and other assessment techniques implemented over MOODLE. He demonstrated all these ideas practically, which further clarified the concepts of participants regarding MOODLE.

3. After him, **Mr. Rajni Ranjan Singh Makwana** (from the department of CSE&IT) highlighted the importance of SWAYAM for enriching the knowledge content of students. In his speech, he mentioned that the realm of education has been engulfed in the effervescence generated by the latest technological upheavals. This has brought about an exalted transformation in the way knowledge is being disseminated to the legions of young minds with an insightful yearning towards learning. The online courses available on SWAYAM facilitates open access and interactive participation by harnessing the prowess of the internet. It confers students with myriad courses of high standards embedded with pioneering technology and industry-driven approach free of cost. He also discussed various practices the institute is following to promote learning through SWAYAM.

4. **Dr. Sunita Sharma** (from the department of Biotechnology) continued the discussion by describing the main features of Flexible Curriculum Scheme, which is currently being followed in the institute. She explained the detailed implementation of the scheme and also described how this scheme is going to help the students to boost their knowledge and grab more career opportunities by choosing industry oriented subjects.

5. Then, **Dr. Sanjiv Sharma** (from the department of CSE&IT) reviewed various practices pertaining to Outcome Based Education. He mentioned that Outcome based education (OBE) is a student-centered instruction model that focuses on measuring student performance through outcomes. Outcomes include knowledge, skills and attitudes. Its focus remains on evaluation of outcomes of the program by stating the

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knowledge, skill and behavior a graduate is expected to attain upon completion of a program and after 4 – 5 years of graduation. In the OBE model, the required knowledge and skill sets for a particular engineering degree is predetermined and the students are evaluated for all the required parameters (Outcomes) during the course of the program.

6. After him, **Mrs. Neha Bhardwaj** (from the department of CSE&IT) described the student feedback process followed at the institute level. She also explained the importance of feedback for improving the techniques and approach of teaching.

7. By discussing all these practices which are already followed in the institute, a context setting for the workshop was created, also the participants got more insight into these practices, and this also made the guest speaker (Dr. M. A. Rizvi) to understand what we are following and what new needs to be discussed, so as to make the workshop more fruitful.

8. Now our guest speaker, **Dr. Murtaza Abbas Rizvi** (Associate Professor & Head, NITTTR, Bhopal) took the workshop on the next level. In the forenoon session, he explained in detail why we are moving from *"Competency Based Curriculum"* to *"Outcome Based Curriculum"*. He explained in detail the meaning of competency and mentioned that the Competency Based Curriculum had no life-long learning attribute in it, that is why we are shifting towards Outcome based curriculum. He mentioned that an optimal mix of *I.Q. (Intelligent Quotient)*, *E.Q. (Emotional Quotient)* and *H.Q. (Happiness Quotient)* needs to be inculcated in the graduated student for his/her successful career, and this leads to the development of *OBE* (Outcome Based Education), which helps us to achieve the same. He clearly said that now-a-days the outcome of a student depicts the outcome of the teacher who has taught him/her, i.e., the performance of the student is directly proportional to the performance of the teacher. Further in his speech, he highlighted various concepts related to OBE, like *vision* (where institute wants to be), *mission* (strategies to achieve vision), *PO* (graduate qualities of a student), *PEO* (student qualities after 3 – 5 years of graduation), *PSO* (professional qualities of graduates) and *CO* (which describe the competency/course). He also mentioned that for the achievement of PSOs one needs to analyze the jobs available in the market for the students and then decide what skills are required for these jobs, which can then be inculcated in students by defining the various competencies (i.e., subjects) and the competencies can then be achieved using COs. Here, sir gave some suggestions regarding Cos:

- Use one CO for each unit in the course.

- Avoid redundancy in COs.

- COs should not be theoretical-oriented, but should be industry-oriented.

- CO should not be domain – specific.

- All COs should be in the application domain.

Thus, a particular programme can be seen as a collection of various

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competencies. The competencies can be achieved using Cos, here sir introduced new terms like **PRO** (Practical Outcome) and **UO** (Unit Outcome), and said that UOs are in the form of question and belong to a particular unit in a competency, they help to achieve PROs. The complete process can be depicted in figure – 1.
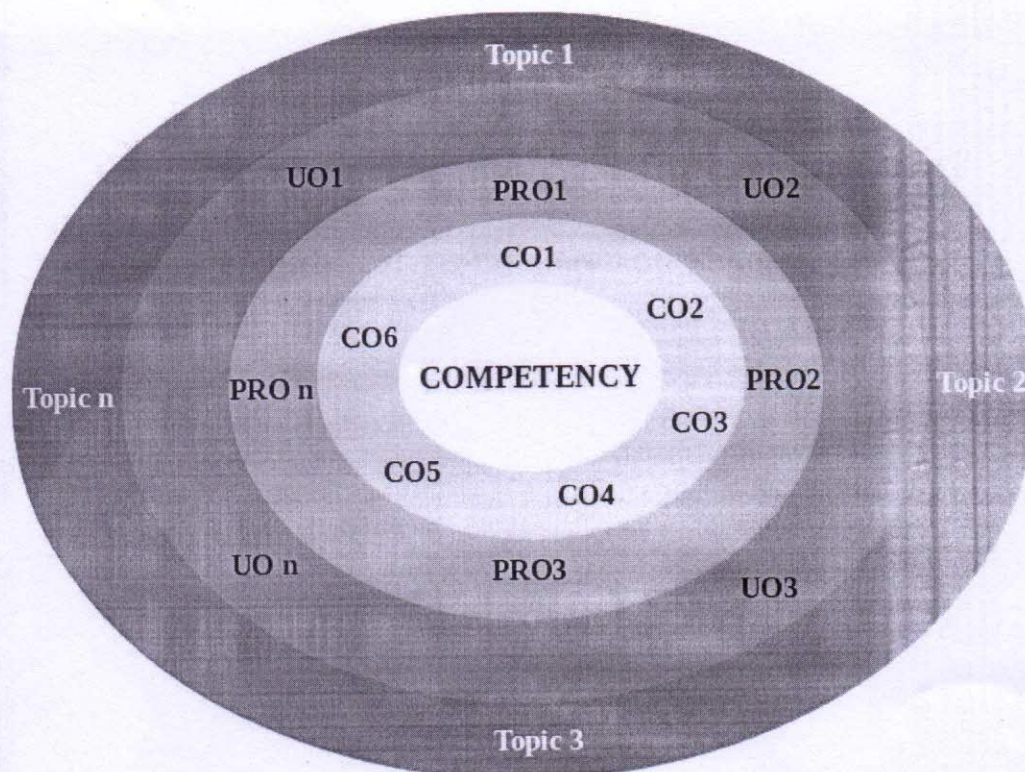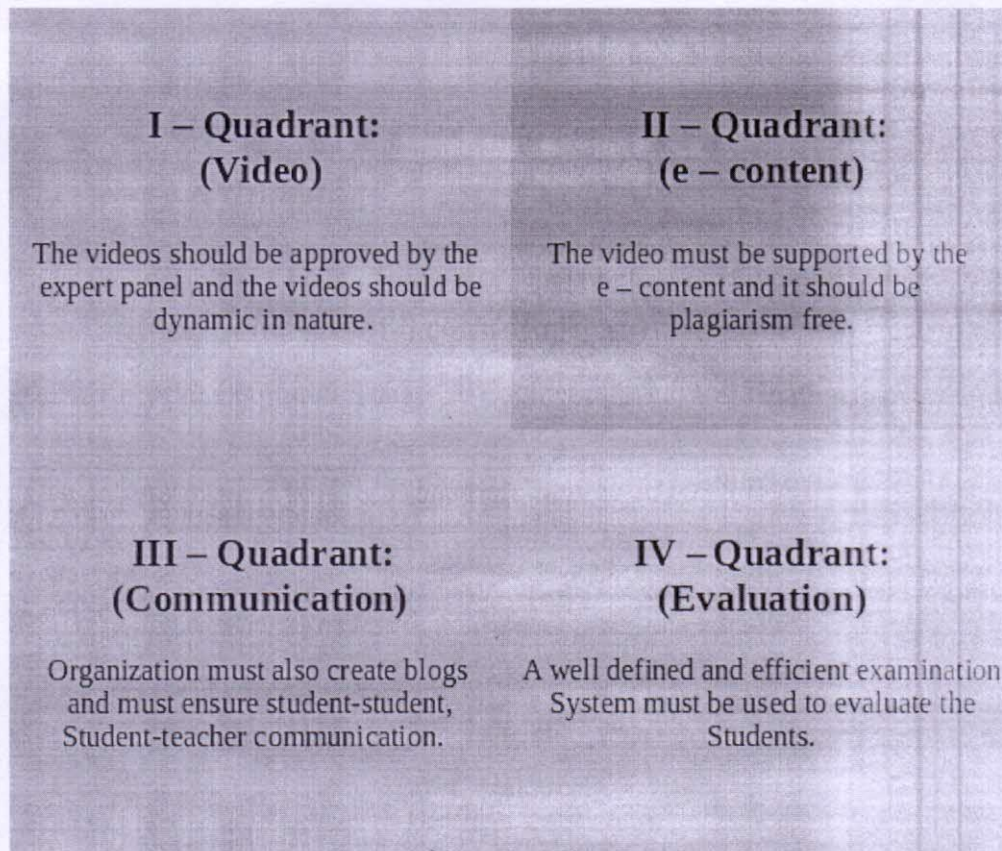

Figure – 1: Process of achieving competency

In the afternoon session, Dr. M. A. Rizvi described various innovative and interactive teaching methods. He mentioned that teaching method is an arrangement of teaching events designed by the teacher to facilitate internal processes of learning in a student, and learning is the change in the behaviour (performance) of the student and is a result of reinforced practice. He also mentioned that students differ from classroom to classroom, which depend on intelligence, temperament, aptitude, physique, cultural background, communication skills and various other factors, and in view of this the teacher must select and use a combination of various suitable teaching methods. Then he also described various teaching methods like: *Deductive method, Inductive Method, Socratic method, Didactic method, Facilitative method, Demonstration method, Roleplaying & Discussion method, Case study & Discussion method, Team Teaching method, Brainstorming, Seminars, practical training* and many more. He also discussed a detailed process of selecting a particular teaching method which can enhance cognitive, affective and psychomotor outcomes in students. At the end he also highlighted SWAYAM for enhancing the knowledge of students. He also described the "*4 – Quadrant Approach for SWAYAM development*", which attracts more students and makes the offered courses successful. Since MITS is also going to launch its own MOOCs, we suggest using this model for

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its effectiveness. The *"4 – Quadrant Approach for SWAYAM development"* as described by Dr. M. A. Rizvi is shown in figure – 2.

I – Quadrant: (Video) The videos should be approved by the expert panel and the videos should be dynamic in nature.	II – Quadrant: (e – content) The video must be supported by the e – content and it should be plagiarism free.
III – Quadrant: (Communication) Organization must also create blogs and must ensure student-student, Student-teacher communication.	IV – Quadrant: (Evaluation) A well defined and efficient examination System must be used to evaluate the Students.

Figure – 2: 4 – Quadrant Approach for SWAYAM development

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REPORT OF WORKSHOP
(Date: 1st February 2020)

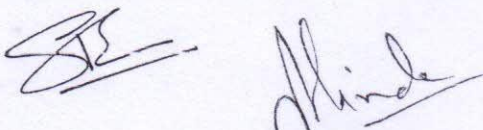**In-house Workshop conducted on Effectiveness of Teaching Learning Process**

A workshop was conducted in pursuance of approved note sheet dated 03/Jan/2020 jointly by the Department of Humanities and Department of Applied Sciences. Following faculty members attended the same:

1. Dr. Abhay Mishra
2. Dr. Vikas Shinde
3. Dr. D. K. Jain
4. Prof. Jitendra Kumar Muthele
5. Prof. Angad Singh Ojha
6. Dr. Anjula Gaur
7. Dr. Shourabh Bhattacharya
8. Dr. Prachi Sharma
9. Dr. Hansnath Tiwari
10. Dr. Santosh Bhardwaj
11. Dr. Preeti Gupta
12. Dr. Prof. D. K. Mishra
13. Prof. Shweta Shrivastava
14. Dr. Manisha Chaudhary
15. Dr. Sanjeev Khanna
16. Dr. Arti Pipariya
17. Dr. Urvashi Garud
18. Prof. Umesh Guramwar
19. Prof. Bhawna Shrey
20. Dr. Garima Baghel
21. Dr. Valiur Rahaman

The workshop started with a welcome note by Dr. Vikas Shinde. It was followed by an opening lecture by Dr. Shourabh Bhattacharya.

Dr. Bhattacharya delivered his talk on "Innovative Methods in Teaching" in his deliberation stresses on the following:

- The teacher should implement newer ideas in teaching learning process.
- One should think differently while delivering his lesson and should incorporate hypothetical questions

- Note-making is an important skill both for the teacher and the taught and the same should be used in enhancing studies.
- Learning can be seen only when due preparations have been carried out.

The second speaker Prof. Angad Singh Ojha and Prof. J K Muthele delivered their talk on "How to Make the Classroom Teaching more Effective and Interesting" at the same time. He emphasized on:

- He stresses on the use of vernacular medium while teaching
- He talked about making the class more interactive and interesting so as to dispel the monotony so as to keep the interest of students in the topic taught
- His emphasis was on dispelling the fear of student in learning and the difficulties in the subject under taught
- He concluded that if the teaching is effective and interactive the class will be disciplined and understanding of the topic will be greater

The third speaker in the afternoon session was Dr. Valiur Rahaman, who delivered his talk on "Slow-learners and Bright-learners". In his deliberations he discussed:

- Acquisition of knowledge
- Categorization of students between bright, good learner and slow learner
- He discussed remedies and stressed on organizing seminar and workshops involving students and between students so as to make teaching effective
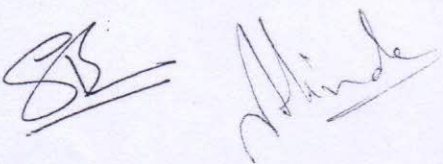
The next speaker in the series was Dr. Anjula Gaur who delivered her talk on "Using Interactive Classroom Teaching Tools." She talked about:

- Discussed tools that can make the classroom session effective and interesting
- Emphasized on use of Moodle and feedback analysis.

The workshop concluded after a talk by Sanjeev Khanna who spoke on "Teaching Millennials". His talk included:

- Finding an appropriate method of teaching in modern day classroom
- How to create compatibility while teaching students of other discipline, especially teaching students of engineering courses in Humanities and Sciences
- The perceptions of millennials and devising ways to teach them

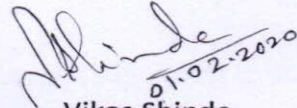The congregation concluded with a follow up program for the organized workshop. The suggestions include:

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1. Courses in Humanities to be customized and made branch specific so that needs of particular students be addressed
2. More such workshops be organized in coordination with core engineering Departments so as to incorporate their specific expectations both in Curriculum and teaching
3. A workshop in similar be organized every fourth Saturday so that proper interaction between the faculty be ensured as the same will result in betterment of teaching-learning process.

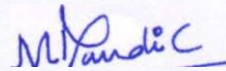**Sanjeev Khanna**
Associate Professor
Department of Humanities

01·02·2020

Vikas Shinde
Head,
Department of Applied Science

Encl:
1. Note-sheet seeking permission for conduction.
2. Attendance of Both Sessions.

Compiled by Dean Academic Office:
Date: 26.12.2019

Dr. Manjaree Pandit
Dean Academics