



**Mahatma Gandhi Mission's
College of Engineering & Technology
Kamothe Navi Mumbai**

4.4.2. Details of Maintenance Policy

Maintenance Policy Document





Head of the Civil Engineering Department shall look after the maintenance of physical infrastructure facilities.

Guidelines for the maintenance of physical infrastructure:

1. Prepare the routine and preventive maintenance schedule
2. Emergency maintenance shall be completed on priority basis
3. The consolidated report of the yearly maintenance shall be prepared and submitted to higher authorities.
4. Maintenance of physical infrastructure will be done by Site Office on campus.
5. Execute the maintenance schedule with the support of external agencies

Responsibilities of maintenance of the infrastructure:

Sr. No.	Equipment/infrastructure	Routine Check	Monitoring Authority	College-level Coordinator
1.	General Electrical maintenance	Electrician, Lab Assistant and Lab-in-charge	Head of the respective Department	Site Office
2.	Air-conditioner	Lab Assistant and Lab-in-charge	Head of the respective Department	Assistant Registrar
3.	Generator and Power Supply	Electrician	Head of Electrical Engg. Department	Site Office
4.	Solar Thermal Systems	Electrician	Head of Electrical Engg. Department	Site Office
5.	Computers and Peripherals such as Printers, Scanners, LCD/DLPs	Department-level Computer Coordinator	Head of the Computer Engg. Department	College-level Computer Coordinator
6.	Internet connectivity and Wi-Fi	Lab Assistant and Lab-in-charge	Head of Information Technology Department	College-level Computer Coordinator
7.	Website	Department Computer In-charge	Staff Coordinator-Computer Engg. Department	Head of the Computer Department





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8.	ERP	ERP Department Coordinator	ERP Committee	Principal
9.	CCTV	Electronics and Telecommunication Department Coordinator	Head of Electronics and Telecommunication Engg. Department	Principal
10.	Biometric	ERP Department Coordinator	ERP Committee	Principal
11.	Software	Lab in-charge and Subject In-charge	Head of the respective Department as per requirement	Head of the respective Department
12.	Library	Department Library Coordinator	Library Committee	Librarian
13.	Telephone-EPABX	Respective Department Faculty	College-level Coordinator	Head of Electronics and Telecommunication Engg. Department
14.	Workshop	Workshop Superintendent	Head of Mechanical Department	Principal
15.	Lift	Concerned Coordinator	Assistant Registrar	Principal
16.	Civil Works	Head of the Civil Engineering Department	Principal	Site Office
17.	Water-coolers and Purifiers	Head of Bio-Technology. Department	Assistant Registrar	Principal
18.	Plumbing	Head of the Mechanical Engineering Department	Principal	Site Office
19.	Classroom-benches and overall furniture including	Head of the Mechanical Engineering	Central Workshop	Principal



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	notice boards	Department		
20.	Sports facilities	Sports Incharge	Sports Committee	Principal
21.	Gardening	Gardener	Site Office	Principal

The college helps to keep the infrastructure in optimum working condition. Many preventive maintenance policies are functional to prevent breakdown of facilities such as lift, generators, internet and Wi-Fi, gardening, housekeeping. An annual maintenance contract is signed with external agency regarding maintenance of the two lifts in the college. The contract states that the lifts shall be maintained once every month and as per call. The payment terms include payment to be done every quarterly to OTIS.

Garden Maintenance is carried out through Annual Maintenance Contract through third party agency for labour and material to keep the campus green and clean. Work order for a period of 1 year with Shree Enterprises including material and labour is issued for Housekeeping which includes cleaning twice a day. The contract for Garden and Housekeeping is renewed each year.

Generators are maintained through Annual Maintenance Contract (AMC). AMC covers 6 visits per year for routine monitoring and maintenance.





4.4.2. Details of Maintenance Policy

MAINTENANCE POLICY DOCUMENT

The institute developed maintenance procedures for maintaining the physical, academic and support facilities, which are mentioned in the “Policy Document” of the institute. The maintenance procedure is as follows:-

Maintenance of Equipment and Furniture

This covers physical, academic and support facilities – Laboratory, Library, Sports complex, Computers, Classrooms etc.

- Annual maintenance contracts (AMCs) are finalised following tendering process for major equipment/facility.
- For maintenance of Lifts, centralized UPS and Water coolers/filters annual maintenance contract is given.
- Maintenance of books in library is done periodically internally. However in the case of old books help of external agency is taken for soft/hard binding.
- Repairing of sports material is done through college workshop and if required through third party vendor.
- The Laboratory Incharge or the concerned faculty/staff maintains the record of equipment, any other material and furniture and also monitors the same. Major repairs are done by the supplier of the equipment.
- Laboratory Incharges are required to submit A to G report on laboratory experimental setups. Major repairs are done through the supplier of the equipment.
- The workshop facility is also utilised for minor repairs.
- In case of replacement, write-off process is follow and approval of the management is taken for replacement.
- Based on the letters of the laboratory Incharges, institute level committee inspects and recommends the write-off of the old and out dated equipment.
- Maintenance and repairs of Library and sports related materials are done through regular approved vendor.

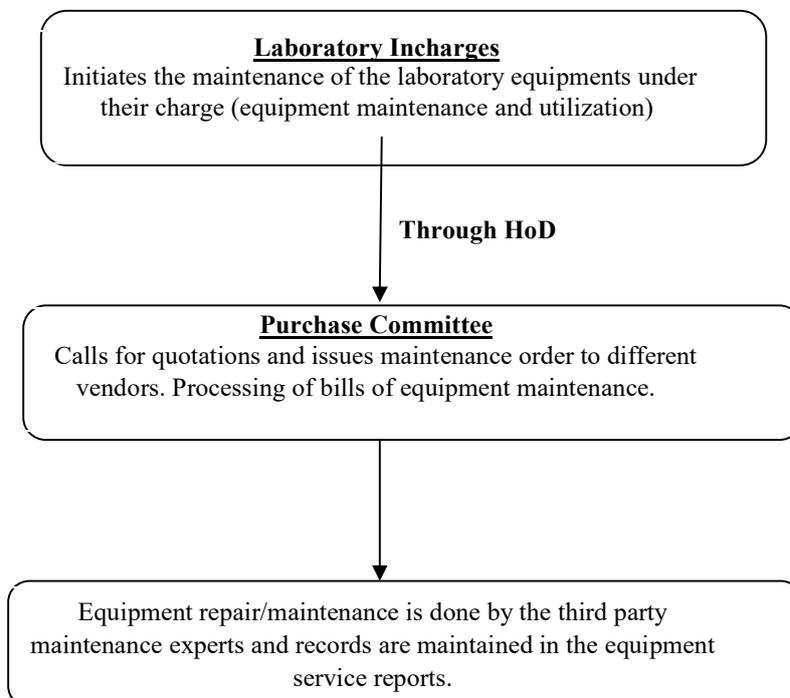
There are college level verifying committees that look after the various aspects of the utilization and maintenance of the physical, academic and support facilities. The working methodology of these committees are explained below in the form of flowcharts indicating the communication and work flow for smooth working of these facilities. The individual blocks in the flowcharts contain the responsibilities of the respective committee/incharge and the arrow lines indicate the work flow.





Laboratory Maintenance:

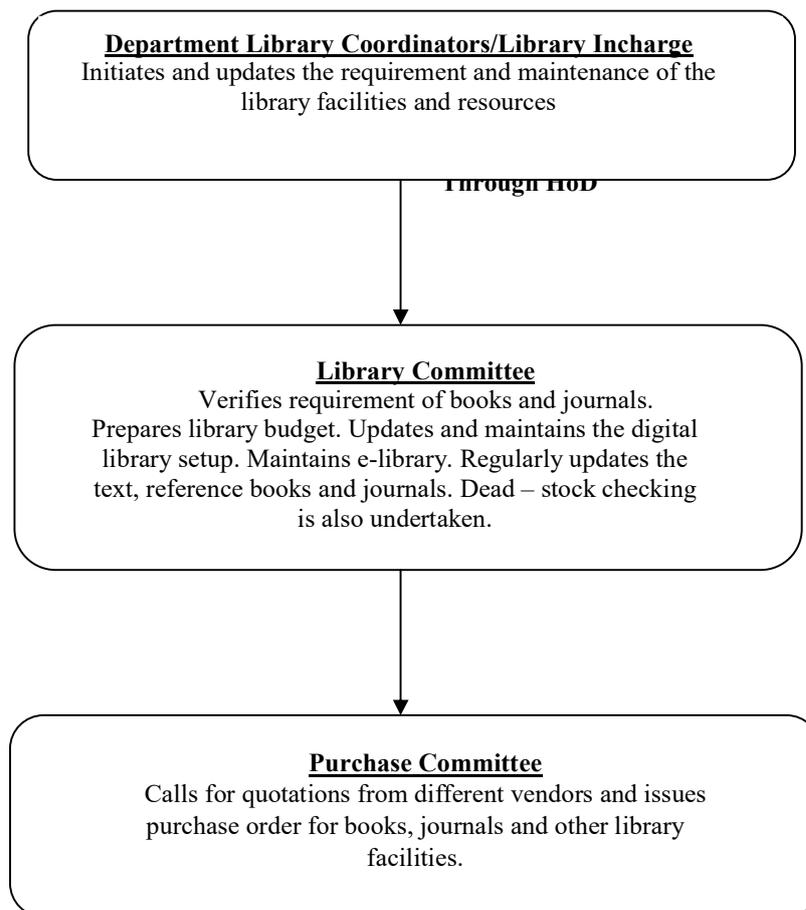
Whenever maintenance of equipment is required, the concerned Laboratory Incharge issues a maintenance request to the "Purchase Committee" through the section/Department head. Based on the requirement, the equipment maintenance work is assigned to third party maintenance experts. These experts carry out the repair/maintenance of the equipment and all such records are maintained in the tag of the equipment. With the help of the following flowchart, the procedure adopted for laboratory maintenance can be explained.





Library Maintenance:

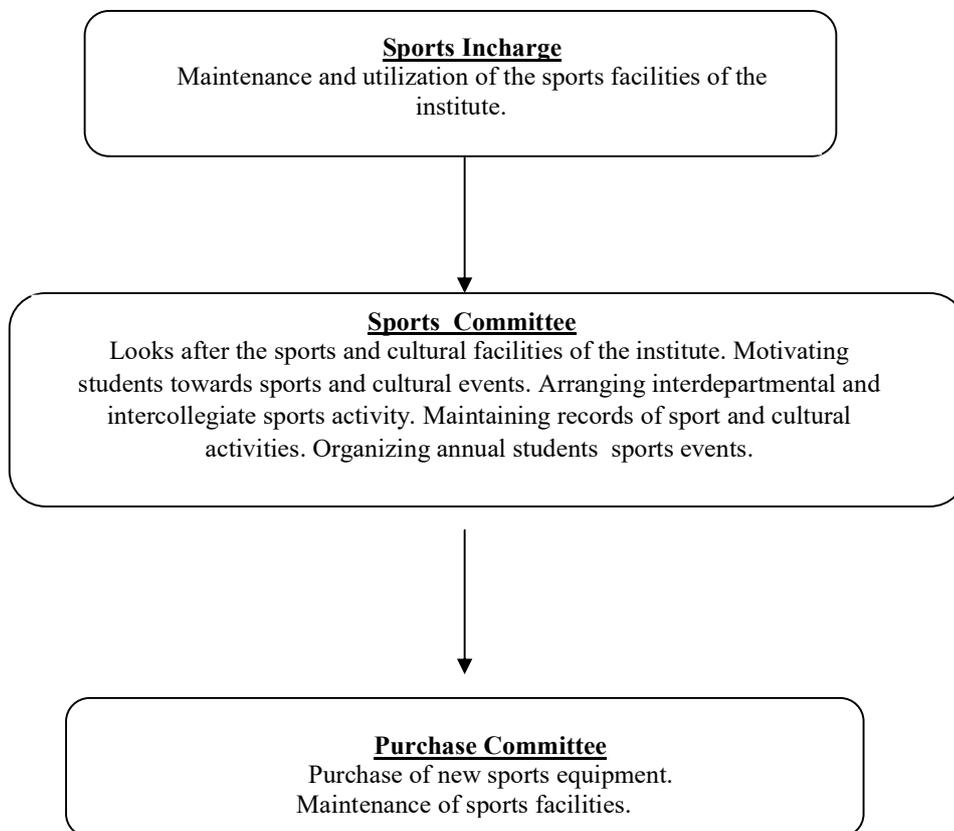
The library of the college has a rich collection of books, journals and e-resources. There is a “Library Committee” in the college which takes care of the library. Following flowchart indicates the standard procedure adopted for the maintenance of library facilities.

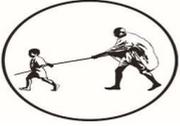




Maintenance of Sports Facilities:

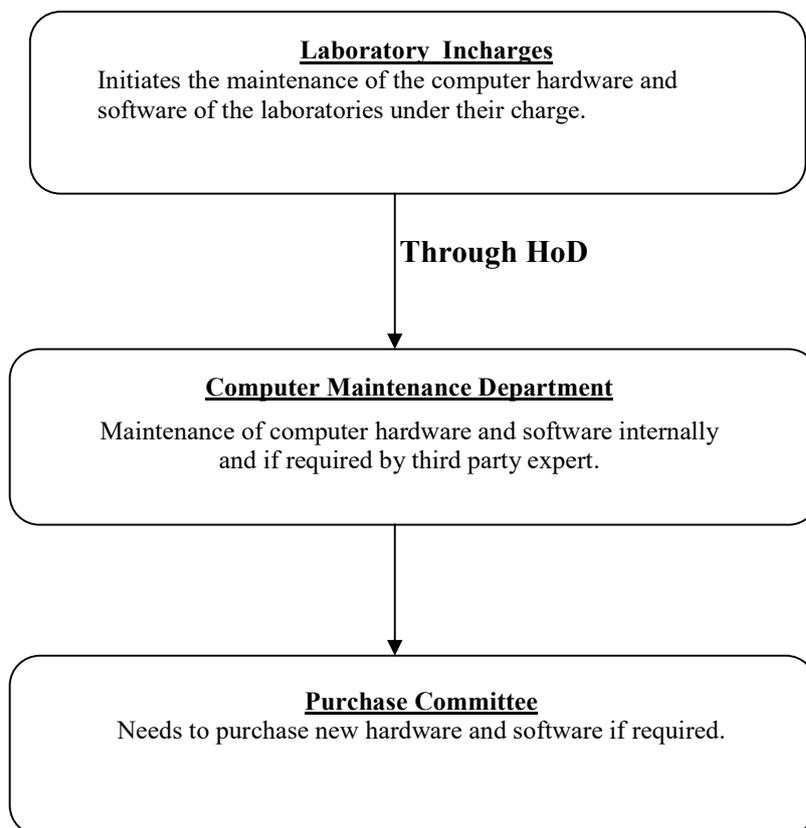
A Sports Incharge is appointed for the utilization and maintenance of the institute's sports facilities. The standard procedure adopted for the utilization and maintenance of the institute's sports facilities is shown in the following flow chart.





Maintenance of Computers:

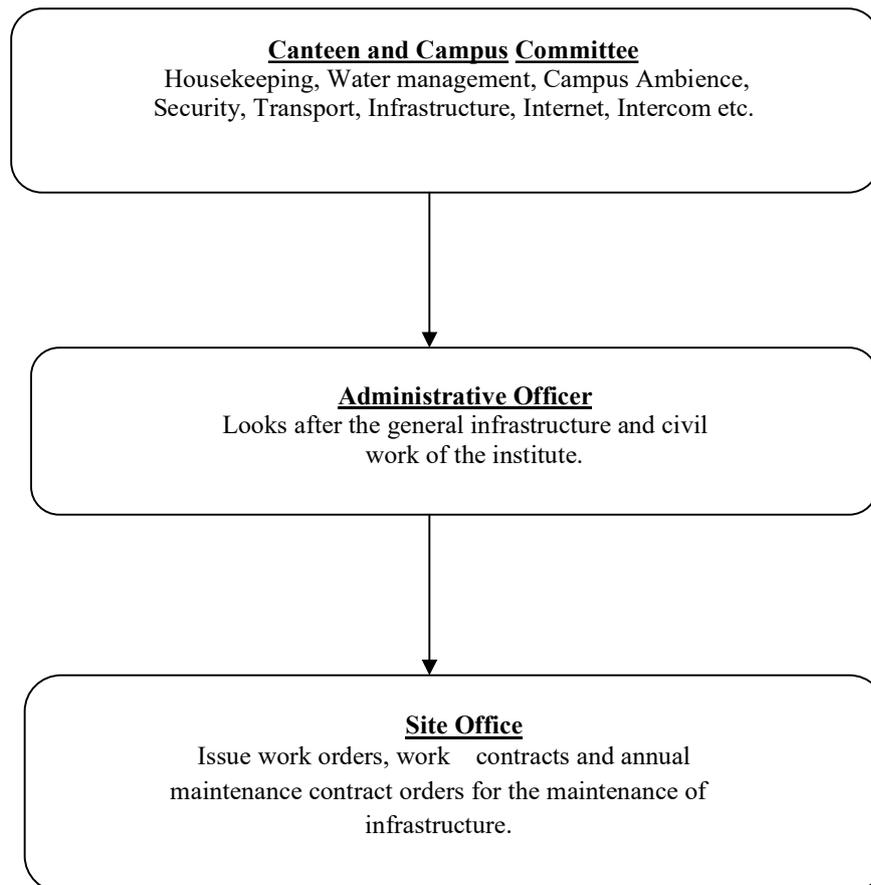
In the institute, Department of Computer Engineering, looks after the maintenance of computer hardware and software. If required third party maintenance experts are called from outside. Following flowchart indicates the standard procedure adopted for the utilization and maintenance of the computer hardware and software.





Maintenance of Institute Infrastructure:

In our campus there is a Site Office for taking care of the maintenance of the institute's infrastructure including the classrooms, laboratories, building, garden, and canteen. The procedure adopted for the maintenance of the infrastructure is shown in the following flowchart.





IT OPERATIONS AND MAINTENANCE POLICY

IT OPERATIONS AND MAINTENANCE POLICY			
Effective Date	8 TH July, 2018	Cross-Reference	1. Contract Management Policy 2. IT Continuity, Backup and Recovery Policy 3. Project Management Policy 4. IT Access Control and User Access Management Policy
Policy Holder	HoD, Computer Engineering		
Approver	Director		
Review Schedule	Every 5 years		
		Appendices	1. IT Maintenance Windows Schedule

1. Policy Statement

1.1 MGM's College of Engineering and Technology is highly dependent on technology to perform its activities on a daily basis. As a result, the Institution has adopted a formal approach to operating and maintaining its Information Technology ("IT") systems and resources.

2. Background

2.1 Dedicated resources are required to support IT systems in production and ensure effective operations and troubleshooting when necessary. These include:

- 2.1.1 Sufficient system capacity (processing power, network access and bandwidth, data storage, etc.)
- 2.1.2 Monitoring procedures to proactively detect system issues or disruptions
- 2.1.3 Procedures to answer users' service requests, as well as system problems, incidents or disruptions, in a timely manner
- 2.1.4 Contracts with third party IT service organization(s) where it makes economic sense and allows for efficiencies to address the Institution's needs, compared to using internal resources
- 2.1.5 Fully trained IT staff

3. Policy Objective

3.1 The objective of this policy is to define the roles, responsibilities and critical elements for the efficient operations and support of IT systems at the Institution.

4. Scope

4.1 This policy applies to:





4.1.1 MGM's College of Engineering and Technology, Kamothe, Navi-Mumbai

5. All IT systems or applications managed by the Institution that store, process or transmit information, including network and computer hardware, software and Networking

5.1 "IT Problems" are conditions or situations (known or unknown) that can result in an incident.

5.2 "IT Incidents" are unplanned events which cause an interruption to, or a reduction in, the quality of the IT operations or services.

5.3 "Security Vulnerabilities" are IT problems that present specific risks to cyber security. Vulnerabilities that have a high probability of being exploited and that will highly impact the Institution (risk of operation disruption, data breach, etc.) are often labeled as "Critical" or "High".

6. Guiding Principles – Help Desk and User Support

6.1 Maintenance staff as the central point of contact for all IT technical requests.

6.2 The following guidelines to prioritize its response to requests:

PRIORITY	CRITERIA	RESPONSE TIME (*)
Urgent	<p>Requests for issues having a significant and immediate impact on the Institution's operations. For example:</p> <ul style="list-style-type: none"> • An issue affecting all or a large number of users. • An issue preventing users to access critical applications or data, or impacting critical functions (e.g. access to network shares, email, or academic courses). • An information security incident or vulnerability with a critical/high severity/risk. • An issue affecting the ability of a class to be delivered or a meeting to take place. 	Within 30 minutes
High	<p>Requests for issues having an important impact on the Institution's operations. For example:</p> <ul style="list-style-type: none"> • An issue impacting important functions in a system. • An information security incident or vulnerabilities with a medium/high severity/risk. • Other as directed. 	Within 5 hours
Normal	<p>Requests for issues having a limited or non-immediate impact on the Institution's operations. For example:</p> <ul style="list-style-type: none"> • An issue affecting one person only. • An issue impacting a non-critical function in a system (reporting for example). • A security incident or vulnerability with a low/medium severity/risk. • A question on how to use a non-critical functionality. 	Before the end of the next working day





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Low	Issues that have no material or immediate impact on the Institution's operations. For example: <ul style="list-style-type: none">• A "cosmetic" request, to improve a system functionality "look and feel" or a minor non-functional change to a system.	More than three working days. Within a week
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() The response time corresponds to the time to process the request, including analyzing and classifying the request, attributing a ticket to the IT specialist, and dispatching of the IT specialist. This time does not indicate when the ticket must be resolved.*

- 6.3 The assigned IT Staff will respond to all requests submitted to HOD and maintenance staff within a one-week period where possible. If a request cannot be processed within a one-week timeframe, the maintenance staff should inform the user who submitted the request.

7. Guiding Principles – IT Problem and Incident Management

- 7.1 Where possible, the Institution will take preventative measures to prevent problems from occurring and minimize the impact of incidents that do occur by addressing identified problems as quickly as possible. Examples of preventative measures include the implementation of high-availability and redundant systems and back-up solutions.
- 7.2 Problems and incidents with a priority of urgent or high must be reported within two hours of detection to contain the issue, and if possible, prevent any further impact.
- 7.3 The following key performance indicators and metrics will be used by MGM CET to monitor IT problems and incidents:
- 7.3.1 Number of total problems and incidents by severity (and category where applicable)
 - 7.3.2 Number of problems and incidents resolved
 - 7.3.3 Number of problems and incidents unresolved, with the time since opened and description of why they are still open
 - 7.3.4 Average time to resolve problems and incidents

8. Guiding Principles – IT Asset Management

- 8.1 The use of non-standard equipment, applications or technology services must be approved by the HoD Computer Engineering
- 8.2 A list of IT assets will be prepared and maintained in accordance with the Fixed Assets Policy. The following equipment should be included in the list:
- 8.2.1 Computer and network hardware (desktops, servers, databases and network devices)
 - 8.2.2 Computing storage media.
 - 8.2.3 Software (applications, software sources and licenses)
- 8.3 All computer hardware (as defined above) must be tagged by IT for identification and traceability.





8.4 All stakeholders must protect IT assets against the threats of: unauthorized access, theft, loss, or destruction.

8.5 Before disposing or recycling IT assets, the Institution will ensure all sensitive information is securely and safely removed and record the following information:

8.5.1 Disposal date and time

8.5.2 Method used to remove sensitive data

8.5.3 Status and location of the IT asset after recycling (i.e. asset destroyed, asset sold or given to another organization/entity, etc.)

8.5.4 Name of the person(s) who removed sensitive data and recycled the IT asset

9. Guiding Principles – Systems Replacement

9.1 For IT systems that will no longer be supported by a vendor (including operating systems and application versions), the Institution will upgrade or replace the system at least one year prior to the end of the vendor's support, where possible.

9.2 MGM CET will replace IT systems and / or equipment that no longer provide an acceptable level of performance as follows:

9.2.1 Desktops and laptops should be replaced approximately every 5 years

9.2.2 Servers and databases should be upgraded to the latest O/S version every 2 years(Microsoft Campus License) or whenever required.

9.2.3 Commercial applications must be upgraded to the latest version available every 3 to 4 years, at a minimum





10. Guiding Principles – IT Infrastructure and Network

- 10.1. The Institution will ensure its IT infrastructure availability and performance is continuously monitored (i.e. 24 hours a day, seven days a week). This will include:
 - 10.1.1. Setting up monitoring tools on critical components of the network and systems
 - 10.1.2. Configuring the monitoring tools to ensure that:
 - 10.1.2.1. The appropriate level of information is detected; and
 - 10.1.2.2. Events detected are communicated immediately to the IT Systems team
- 10.2. Follow section 7 of this policy to react to any network infrastructure availability or performance issue.
- 10.3. The configuration of systems backups and the recovery processes will follow the IT Continuity, Backup and Recovery Policy.
- 10.4. The IT Department will be involved in defining the IT technical requirements (i.e. IT and security) for new MGM CET projects, including new technology, new or renovated buildings, etc.
- 10.5. Planned maintenance will occur during the scheduled maintenance window, according to the IT Maintenance Windows Schedule in Appendix 1.

11. Guiding Principles – Vulnerability and Patch Management

- 11.1 The following activities will be carried out to assist MGM CET in the identification of vulnerabilities to systems and applications:
 - 11.1.1 Scanning of web applications that are publicly accessible at a minimum every year
 - 11.1.2 Scanning of web applications that are not publicly accessible at a minimum every two years
 - 11.1.3 Network vulnerability scanning at a minimum every year
 - 11.1.4 Penetration testing, including a detailed review of the system security configuration, at a minimum every five years.
- 11.2 Identified vulnerabilities must be addressed in a timely manner. Specifically, all critical and high vulnerabilities must be addressed in full within a 30 day maximum period of time, where possible.
- 11.3 Systems security updates and patches will be applied in a timely manner after they have been published by the vendor. Critical security patches must be applied no later than a month after they have been made available, where possible.
- 11.4 Patch management, and remediation of identified vulnerabilities, will occur during the scheduled maintenance window, according to the IT Maintenance Windows Schedule in Appendix 1.





12. Guiding Principles – Applications Management

- 12.1 Only authorized software and licensed products must be used and installed.
- 12.2 The development of new applications must follow the Project Management Policy (where applicable).
- 12.3 The purchase of software or commercial off the shelf (“COTS”) applications must follow the Purchasing Policy.
- 12.4 All changes to applications must follow the IT Change Management Policy.
- 12.5 User access to an application must follow the IT Access Control and User Access Management Policy.
- 12.6 Planned maintenance will occur during the scheduled maintenance window, according to the IT Maintenance Windows Schedule in Appendix 1.

13. Roles and Responsibilities

STAKEHOLDER	RESPONSIBILITIES
Executive Council	<ul style="list-style-type: none"> • Approve and formally support this policy.
Director	<ul style="list-style-type: none"> • Review and formally support this policy.
HoD Computer Engineering	<ul style="list-style-type: none"> • Develop and maintain this policy. • Review and approve any exceptions to the requirements of this policy. • Take proactive steps to reinforce compliance of all stakeholders with this policy. • Communicate with the Institution, directly or through Institution representatives, in informal or formal instances, to understand the Institution needs and expectations, explain the capabilities of the existing technology in production, report on any issues, incidents or disruptions impacting the Institution and how they are addressed, and facilitate the response to any requests from the Institution. • Support Institution representatives in expressing their needs, evaluating and proposing the most efficient solutions, and training users. • Manage IT projects, IT Service delivery, IT operations, IT incidents and IT security. • Ensure any disruption to the technology is addressed in a timely manner. • Report to the Vice President, Administration, the President and CEO as well as the Board of Governors.
IT Infrastructure Team	<ul style="list-style-type: none"> • Ensure normal operations of the network infrastructure (Network hardware and services). • Ensure normal operations of the data-centre and data-rooms.
IT Applications Team (lab Incharges)	<ul style="list-style-type: none"> • Ensure the normal operations and maintenance of the Institution applications. • Assist in the registration of domain names (for websites). • Define the standards and make recommendations on approved development coding standard and libraries. • Ensure security scanning of web applications is performed regularly, and vulnerabilities are addressed in a timely manner. • Communicate with the application owners, the application developers, the IT





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	infrastructure team, and the hosting service company (where applicable), to ensure that formal procedures for the development, implementation and changes to applications are followed.
Application Administrator	<ul style="list-style-type: none"> • Implement requests that are approved by the application owner or the IT application team, where applicable. • Monitor the status of the applications they are responsible for. • Maintain the performance level of applications, working as required with the IT application team, or the IT infrastructure team.
Supervisor	<ul style="list-style-type: none"> • Review any problem, issue or need from users that cannot be resolved by the standard IT processes for the management of IT problems, incidents, maintenance, support or change. • Contact the IT group for any problem or need that cannot be resolved by the standard IT processes
Users	<ul style="list-style-type: none"> • Contact the IT Service Desk for any problem, issue or needs related to the technology. When a problem, issue or needs cannot be addressed by the IT Service Desk, they contact their supervisor or representative • Contact their supervisor or manager for any request related to access rights and privileges, or needs for IT equipment.

14. Exceptions to the Policy

- 14.1 Exceptions to the guiding principles in this policy must be documented and formally approved by the HoD Computer Engineering
- 14.2 Policy exceptions must describe:
- 14.2.1 The nature of the exception
- 14.2.2 A reasonable explanation for why the policy exception is required
- 14.2.3 Any risks created by the policy exception
- 14.2.4 Evidence of approval by the IT Director

15. Inquiries

- 15.1 Inquiries regarding this policy can be directed to the HoD Computer Engineering

16. Amendments (Revision History)

- 16.1 Amendments to this policy will be published from time to time and circulated to the College community.





IT OPERATIONS AND MAINTENANCE

APPENDIX 1

Appendix 1 – IT Maintenance Windows Schedule

1. Regular Planned Maintenance and Minor Updates will be scheduled to occur on Thursday Nights. Maintenance may start as early as 6:00 PM, and may run as late as 6:00 AM Friday morning. If possible, disruptive activities will be delayed until after 10:00 PM.
2. Emergency Maintenance and remediation of identified vulnerabilities will occur as soon as possible, and scheduled to reduce impact on operations when possible. Affected users will be notified in advance when possible.
3. Maintenance related to a Project, such as scheduled go-live dates, may occur outside of the regular maintenance work. Project-related maintenance windows will be scheduled with and approved by the system owners. Affected users will be notified a minimum of one week in advance of the scheduled date.
4. Maintenance in a test environment is considered to be of minimal impact to users and maintenance can be scheduled as needed. Only the affected team or project resources need to be notified.

