# Criterion 4 - Infrastructure and Learning Resources

## 4.1 Physical Facilities

**4.1.1 The institution has adequate facilities for teaching- learning. viz., classrooms, laboratories, computing equipment, etc.**

**Response:**

The College has established policies and procedures to create and enhance the infrastructure for effective teaching learning process continuously. The college management has been keen on providing well established infrastructural facilities since the inception of the college. The college has fully developed infrastructural facilities with a built up area of 35,070Sq. Mtrs of Facility. The campus has 4 blocks which consist of various streams of engineering, Management programs. The institution is highly facilitated with Wi-Fi enabled campus, well equipped ICT and e- class rooms. The laboratories are fully equipped as per AICTE and affiliating University norms. The Head of the Departments prepare budget proposals for every academic year and submit them to the Principal. The Governing Body of the college meets once in a year to approve and sanction the budget proposals which is submitted by the Principal.

 Facilities for Academic activities:

- **Block-A:**

Ground floor:

Dean Office, Seminar Hall, Exam Cell, Computer Lab, E-Class Rooms, Principal Office, Front Office, Conference Hall, Power Room, Lab Keys Room, Management Room, Administrative Office, ECE – labs, Computer Labs.

First Floor:

EDC and CGC cells, Computer Science Engineering Department staff room e-Class Room and Lecture halls, R & D Cell, Girls Waiting Hall, Electronics and Communications Engineering Department staff room and Lecture halls.

Second Floor:

■

- **Block-B:**

GROUND Floor:

TPO Cell, Mechanical Labs, Chemistry Lab, Carpentry Section, Civil Engineering Labs, Power Room, Physics Lab, EEE Labs.

First Floor:

Mechanical Engineering Department Staff Room and Lecture Halls, NSS Cell, Electrical and Electronics Engineering Department Staff Room and Lecture Halls.

Second Floor:

Basic Sciences and Humanities Department Staff Room and Lecture Halls, Drawing halls, Civil Engineering Department Staff Room and Lecture Halls.

- **Block-C:**

Ground Floor

Juice Shop, Maintenance Room, Electrical In-charge, Stationary store, Physical Education Room, Transport Office, Mineral Water Plant, Cooking area, Open Air Theatre, Generator Room.

First Floor:

Cafeteria

Second Floor:

Drivers Rest room

Guest Room

- **Block-D:**

Digital A/C Auditorium, Library, A/cDigital Library, FM & HM lab, HT Lab, TE Lab, MT Lab, Engineering workshop, Metrology Lab.

Separate rest rooms and toilets for Boys and Girls are available on each floor and each block.

The other facilities available are:

- Surveillance CC cameras.
- The internet facility is enhanced from 20Mbps to 156Mbps.
- R.O Plant with capacity of 400-500LPH
- Reprography
- Canteen
- 200KVA generator
- 220 KVA power line
- Transport facility covering three north Andhra districts Vizag, Vizianagaram and Srikakulam.
- College Attached Welfare Hostels for boys and girls.
- Book Stores
- ATM Center

Facilities for Co-Curricular Activities:

- Indoor Digital A/c Auditorium with 500 seating capacity.
- Open Air Auditorium.
- Seminar Halls with ICT facility
- Board Room.

Facilities for Extracurricular Activities:

- Indoor tables for Table-Tennis.
- Indoor games such as Chess and Caroms.
- Cricket ground.
- Volley ball courts.
- Basket ball court.
- Kho-Kho court.

- Kabaddi Court.
- Tennis Courts.
- Well equipped Gymnasium.

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

**Response:**

The institution has its uniqueness in the field of sports and games. It has a gigantic play ground spread over 8 acres of land for Cricket, Basket Ball, Volley Ball etc. An Indoor stadium with facilities for Table Tennis, Badminton etc. It has an indoor digital A/c auditorium with 500 seating capacity, and also an open air auditorium. The students are encouraged to participate in extra-curricular, inter, intra sports and games meet apart from their academics. Students are encouraged to participate and prove their talents by allocating sports and games hour in their time table.

Indoor and outdoor Facilities for Sports and games available in the institution:

| s.no | Name of Sports &Games | No of Courts/Items | Area |
|------|-----------------------|--------------------|------|
|  | **Cricket Practice Net** | **1** |  |
| 1 | Cricket ground with Mat | 1 | 12864 sq.mt |
| 2 | Volley ball courts | 2 + 3 | 810 sq.mt |
| 3 | Basket ball courts | 1 | 420 sq.mt |
| 4 | Tennis courts | 2 | 522.2.50 sq.mt |
| 6 | Shuttle courts | 1 | 163.48 sq.mt |
| 7 | Kabaddi courts | 2 | 260 sq.mt |
| 8 | Kho-kho courts | 1 | 432 sq.mt |
| 9 | Running track (100m, 200m, 400m, 4X400m) | 1 | 4340 sq.mt |
| 10 | Long jump | 1 | 35 sq.mt |
| 11 | Tennikoit courts | 1 | 67.1 sq.mt |
| 12 | Shot-put | 1 | Open Ground available |
| 13 | Javelin throw | 2 | Open Ground available |
| 14 | Chess boards | 4 |  |
| 15 | Carrom boards | 5 |  |
| 16 | Multipurpose(Gym) | 1 |  |
| 17 | Table Tennis | 2 Boards | 8.4 Sq.Mt. |

Extra Curricular Activities:

The institution also encourages the students to participate in various extracurricular activities inside and outside the campus. The institution is sending the students to district, state level competitions conducted by various Govt. and semi Govt. organizations like JNTUK, Eenadu and Sakshi cricket tournaments, Visakha Body Building, Andhra Body Building, etc...

Gymnasium:

The institution has a splendid gymnasium. A full time Trainer and a Physical Director regularly monitor the students and faculty workout for their physical fitness.

| Sno | Name of the Item | Usage | |
|-----|------------------|-------|--|
| 1 | Wrist Conditioner | To Develop The Wrist Strength | |
| 2 | Squat Stand | To Develop The Arm String And Muscle And Knee | |
| 3 | Double Twister | To Develop Hip Flexibility | |
| 4 | Stepper | To Develop The Knee Strength | |
| 5 | 12 Station Multi Gym | Development Of Whole Body | |
| 6 | Dumbles 200Kg | To Develop The Bicep Muscle, Forearm Muscles | |
| 7 | Dip Stand | To Develop The Chest And Shoulder | |
| 8 | Bench Press | To Develop The Chest | |

PRACTICE of YOGA:

In this modern era every individual needs to overcome the stress to have peace of mind. The institution educates the students and faculty by yoga trainers. The National Yoga Day is organized every year with enthusiastic participation of faculty and students.

**4.1.3 Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc**

**Response:** 100

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 55

| File Description | Document |
|---|---|
| Number of classrooms and seminar halls with ICT enabled facilities | View Document |
| Link for additional information which is optional | View Document |

**4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.**

**Response:** 39.21

4.1.4.1 Budget allocation for infrastructure augmentation, excluding salary year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---|---|---|---|---|
| 190 | 240 | 170 | 140 | 190 |

| File Description | Document |
|---|---|
| Details of budget allocation, excluding salary during the last five years | View Document |
| Audited utilization statements | View Document |

## 4.2 Library as a Learning Resource

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

**Response:**

Miracle Educational Society Group Of Institutions has its separate good ventilated library which comprises vast collection of books, journals and magazines. An A/c digital library is available with facilities for accessing e-journals, e-books, NPTEL videos etc. The librarian makes all efforts to maintain effectively and to acquire useful books including rare books, project reports and other knowledge resources to enrich its collection. The library has all the prescribed, recommended and reference books as per the university norms. A collection of back volumes and previous years university question papers are provided. All books are bar coded and the issues and returns are automated and maintained using "ECAP" software.

Total no of Volumes                    : 18395

Total no of Titles                           :  3100

| | |
|---|---|
| Area of Library | : 7500 Sq.ft |
| Seating capacity | : 150 |
| Facilities available | : |
| LAN | : Yes |
| Internet connectivity | : Yes |
| Automated services | : Yes |

Working Hours of Library:

| | |
|---|---|
| Week days | : 8.00A.M to 6.00P.M |
| Books Issue Timings | : 9.00A.M to 5.00 P.M |

| | |
|---|---|
| During Holidays | : 10.00 A.M to 1.00 P.M |

| | |
|---|---|
| During Examination | : 9.00 A.M to 7.00 P.M. |

| | |
|---|---|
| During Vacation | : 10:00 A.M to 1.00 P.M |

| | |
|---|---|
| Name of software | : ECAP Version 3.0 |

Nature of automation (fully or partially): Fully

Version: 3.0

Year of automation: 2010

**4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resources for library enrichment**

**Response:**

All the Departments are provided with required infrastructure facilities like class rooms, staff rooms, laboratories, waiting halls for girls and boys separately. The effective usage of the facilities such as Sports and Library is ensured by introducing exclusive hours under the supervision of faculty members. Students can also avail the facility of yoga training every week.

## 1. Maintenance of infrastructure:

Infrastructure facilities is maintained by the Civil Engineering Maintenance department headed by a Civil Engineer. Any kind of complaints are registered in maintenance register which are physically examined and rectified by the maintenance department. The Departments take steps to protect sensitive instruments from physical and electrical damage to have the optimum performance of the equipment. Earth pits are dug across the campus for the safe operation of sensitive equipment. The Transport department is maintained by Mechanical Department with the help of transport In-charge. A separate bus in-charge looks into the regular maintenance. Regular do-ups and maintenance of the equipment in the laboratories shall be carried out by the service provider during the vacation between the semesters. Laboratory In charge and technician make an inspection of equipment on a monthly basis. Equipment testing is done every semester to ensure the sufficiency of equipment to meet the laboratory needs. Stock verification is carried out at the end of every year by the concerned In-charges. The cleaning of the whole institution is taken care by maintenance staff under the supervision of supervisors. Security of the institution is being maintained by the external agency 24/7. Fumigation of the entire Institution is done frequently by sanitary workers. The landscaping maintenance is administered by maintenance department.

## 2. Library Advisory Committee:

The Library Advisory Committee is constituted with Principal, Dean and all HODs, faculty and two students from each department for review and to suggest the necessary steps for the up gradation of library facilities.

## 3. Maintenance of Labs and computers:

All the computer related facilities including hardware, software and UPS are maintained by technical supporting staff in the laboratories. Lab-in-charges not only record the details of consumable and non-consumable equipment in respective registers but also perform regular maintenance. Major breakages of any equipment is reported to the respective HODs for immediate action. Regular cleaning of the labs is done by the maintenance department staff in the presence of lab technicians.

**4.2.3 Does the institution have the following:**

1. e-journals
2. e-ShodhSindhu
3. Shodhganga Membership
4. e-books
5. Databases

**A. Any 4 of the above**

**B. Any 3 of the above**

**C. Any 2 of the above**

**D. Any 1 of the above**

**Response:** A. Any 4 of the above

| File Description | Document |
|---|---|
| Details of subscriptions like e-journals,e-ShodhSindhu,Shodhganga Membership etc | [View Document](#) |
| Any additional information | [View Document](#) |

**4.2.4 Average annual expenditure for purchase of  books and journals  during the last five years (INR in Lakhs)**

**Response:** 0.78

4.2.4.1 Annual expenditure for purchase of  books and journals  year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---|---|---|---|---|
| 0.67 | 0.15 | 1.6 | 0.43 | 1.05 |

| File Description | Document |
|---|---|
| Details of annual expenditure for purchase of books and journals during the last five years | [View Document](#) |
| Audited statements of accounts | [View Document](#) |

**4.2.5 Availability of remote access to e-resources of the library**

**Response:** Yes

**4.2.6 Percentage per day usage of library by teachers and students**

**Response:** 23.97

4.2.6.1 Average number of teachers and students using library per day over last one year

Response: 303

| File Description | Document |
|---|---|
| Any additional information | [View Document](#) |

# 4.3 IT Infrastructure

**4.3.1 Institution frequently updates its IT facilities including Wi-Fi**

**Response:**

The institution is giving top priority for the development of IT infrastructure. Campus is provided with 180 computers and 8 Wi-Fi routers in various laboratories and departments to contribute to effective teaching learning environment.

**LAN facility:**

The institution had a LAN facility wired with CAT6, 156mb connectivity in the beginning of the days later it has upgraded with Optical fiber connectivity to all the computers.

**Wi-Fi facility:**

The Wi-Fi facility is available in the campus comprises 1 router in Computer Lab, 4 routers installed in all the departments and 3 routers placed in corridors of all blocks.

**Internet Service:**

Internet facility is initiated in the year 2009 with a speed of 49 Mbps. Later it has been enhanced to 80

Mbps in 2012 year. In later stage the Institution is provided with Airtel ISPs, one with 80 Mbps and another with 100 Mbps. The academic advisory committee of MES periodically reviews the IT infrastructure and recommends the necessary up gradation as per the guide lines of AICTE and University from time to time.

**Other IT devices:**

The Institution constitutes 8 Projectors, 12 Printers 3 Scanners and 6 Xerox machines.

**List of Software:**

1.  Windows 10 Single OLP NL Academic

2.  Office STD 2013 Single OLP NL Academic

3.  Office 365 pro plus

4.  Quick Heal SEQRITE –EPS 7 Business -3 years

5.  Windows 7 professional

6.  Windows starter 7

7. Office 2007 suites

8. Office Standard 2010 KMS

9. Office Standard 2010 Mak

10. Globerena

11. VariCAD

12. Office Standard 2010

13. Tooling package for XLTurn –MTAB

14. Tooling package for XLMILL – MTAB

15. Attendance Software -ECAP

16. Library Automation Package

17. Matlab

18. Ubuntu -Free

19. Mentro Graphics – HEP -1

20. Xilinix Vivado

21. AutoCAD 2012

22. Turbo C++

23. Oracle

24. PSPICE

25. ETABS

Up gradation of IT facility in the institution:

As per the intake, College Procurement Committee is at hand to upgrade the IT facilities year by year to facilitate all the students.

**4.3.2 Student - Computer ratio**

**Response:** 2.51

**4.3.3 Available bandwidth of internet connection in the Institution (Lease line)**
**>=50 MBPS**

**35-50 MBPS**

**20-35 MBPS**

**5-20 MBPS**

**Response:** >=50 MBPS

| File Description | Document |
|---|---|
| Any additional information | [View Document](#) |

**4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)**

**Response:** No

| File Description | Document |
|---|---|
| Facilities for e-content development such as Media Centre, Recording facility,LCS | [View Document](#) |
| Any additional information | [View Document](#) |

## 4.4 Maintenance of Campus Infrastructure

**4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years**

**Response:** 55.88

4.4.1.1 Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year-wise during the last five years (INR in Lakhs)

| 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 |
|---|---|---|---|---|
| 250.43 | 368.32 | 243.46 | 216.97 | 248.48 |

| File Description | Document |
|---|---|
| Details about assigned budget and expenditure on physical facilities and academic facilities | [View Document](#) |
| Audited statements of accounts. | [View Document](#) |

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

**Response:**

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