Chapter 5
Logical Model of Management Information System for Cluster-based Educational Institutions

5.1 The Logical Model of Management Information System

In computerized environment, the Management Information System of educational institution (college) may comprise of a module-integrated transaction processing system with data warehousing and data mining capacities, linked with a relational database management system in distributed database mode. The system is designed to retrieve information of the internal operations (of four functional modules) from databases that are updated by the transaction processing system. It may obtain data from external sources, and also cover the operational mode of the people involved in its operation.

5.1.1 Organization Structure

The MIS Model as presented, illustrate the integrated transaction processing and management information generating process at two levels – one, at the local institutional level and the other, at the clustered level. The clustered level may comprise of a cluster of institutions or a university-colleges consortium united together on certain common operational management agenda for resource sharing and sharing common infrastructure, facilities & services for economy and efficient management. A central monitoring and processing center may be built to look after the common housekeeping works, consolidated data processing works and generation of routine and special report documents of management information on behalf of all the members of the cluster.
The model as presented include four functional modules, namely, Staff Management Module, Finance-Accounts & General Module, Students’ Management Module and Library Management Module to cover all the recurring natured administrative activities. The modules contain well-planned input interfaces that can be navigated through GUI compliant menus linked with relational tables in structured form, where the data are to be entered into the normalized distributed databases. The functional modules also contain some control menus to run application programs that generate some functional result (eg. payroll, etc.) and generating recurring natured database reports. A separate menu named ‘MIS’ in the front-end interface is built to generate some well defined, structured, recurring natured database reports, classified as daily, weekly, monthly and annual scheduled reports.

5.1.2 Overview of the Systems’ Workflow

At the local level, all the member institutions will use a uniform mechanized office management system (UMOM) and will follow common data entry format to run their local institution’s transaction processing system (TPS). The TPS will cover the data entry operations, data validity, data storage and data mining works for information generation. The TPS will collect data through various GUI compliant input-entry interfaces (forms) spread over in the system in its four functional modules. The principles of data redundancy and normalization will be followed at all levels. The entered data may pass through system defined validation programs into well structured normalized database tables as records. All the records so entered through TPS will have auto-generated institution’s code number and date/year, to identify its existence in the consolidated database of the whole cluster. Such data may even be entered through different menu driven interfaces of other modules using combo-
boxes. Some of the tables will contain permanent records and will be called Master Files, while some may contain the transaction records and be called the Transaction Files. A transaction can be said to be complete if and only if, all the associated databases that are affected by this transaction are updated and all the updates are completed. The TPS will also contain customized program packages to generate results through logical expressions and calculations and generate the end-results in the form of reports, after collecting different bits of data from different master and transaction files situated under any of the Modules. Different modules will contain different sets of input data – both master and transaction data, and will generate different sets of outputs – both queries and database reports.

The DFD of transaction processing system (in FA&G Module) is shown Figure 5.1 as an illustration of the workflow of TPS.

**Fig. 5.1**: DFD showing general workflow of Transaction Processing (in F A & G Module)
5.1.3 Workflow at the Local Institutional Level

The MIS Model so designed at the local level is operationally independent and may operate in the stand-alone mode without the help of the Central Monitoring and Data Processing Center. However, strategic collaborative association-ship in a cluster to get the common infrastructure supports and resource sharing is advantageous both economically and operationally for the individual institutions, particularly in the environment where global competition is an upcoming event, infrastructure scarcity is acute (mostly the resource person in rural and semi-urban colleges) and the Government policies are moving towards de-control and privatization of educational sector. The MIS Model as presented is aimed to provide support to group activities in certain areas of recurring natured operation that need bulk data processing but less or nil decision making, and planned for better utilization of resources through sharing of common facilities by the member institutions.

The MIS Model at the local level is presented below in Figure 5.2 by way of a data flow diagram to describe its work process.

![Data Flow Diagram](image-url)

**Fig. 5.2**: DFD showing MIS Model of a stand-alone (local) educational institution
The MIS Model so designed is a kind of information generating engine linked with a transaction processing system (TPS). The TPS act as a mechanism to collect, consolidate and preserve data, to be further used to generate inter-related information through various reports by taking the help of various inbuilt object-oriented programs. The data entries relate to the transactions that take place amongst different entities, and are done through multiple data entries points spread in any of the four functional modules (namely Module 1,2,3,4 in the diagram). The GUI compliant data entry forms may be used with inbuilt validation check facilities, to ensure only one-time entry of valid data into the system. OOP techniques are normally used to design program packages that direct the entered data in the appropriate database address. The Model use RDBMS to regulate the flow of data and do the data warehousing and data mining works. The system needs to maintain well defined relationships amongst the various tables that are classified and maintained in any of the four functional modules. Appropriate security features are to be maintained through the implementation of authentication modular matrix control and the use of firewall at the TPS level (specially required when intranet and extranet environment exist in geographically dispersed located campuses of the institutions).

The RDBMS applications in the Model ensure data maintenance works. These data elements constitute the ingredients that generate object-defined information. Such information may be classified into recurring natured and non-recurring natured functional information. The recurring natured information is designed to be generated directly as database reports through a set of report generating program packages. They are represented in the MIS Model as \([DM1, DM2, DM3, DM4]\). It denotes that the object-oriented programs that generate database reports will do the work by calling the required fields through SQL queries from different database tables spread
in the system in different modules; place them in appropriate report designs (may be with the help of a software named *Crystal Report*); generate results and findings for the reports by appropriate data manipulations through formula-calculation and assigning functions; and do the filing works directly in any of the functional modular directory by routing the destination path of the report in the directory. The functional directories that will contain the recurring natured database reports [*DM1, DM2, DM3, DM4*] may be further sub-classified as *Daily*, *Monthly* and *Annual* Report Folders.

The database reports that these directories may hold are represented as follows:

* DM1, M2, M3, M4 are Staff, FA&G, Students and Library Modules respectively, and

- [DM1\_d{1,2,...}, DM1\_m{1,2,...}, DM1\_a{1,2,...}]
- [DM2\_d{1,2,...}, DM2\_m{1,2,...}, DM2\_a{1,2,...}]
- [DM3\_d{1,2,...}, DM3\_m{1,2,...}, DM3\_a{1,2,...}]
- [DM4\_d{1,2,...}, DM4\_m{1,2,...}, DM4\_a{1,2,...}]

where,

- [DM1\_d{1,2,...}] represent **daily** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 1
- [DM1\_m{1,2,...}] represent **monthly** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 1
- [DM1\_a{1,2,...}] represent **annual** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 1
- [DM2\_d{1,2,...}] represent **daily** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 2
- [DM2\_m{1,2,...}] represent **monthly** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 2
- [DM2\_a{1,2,...}] represent **annual** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 2
- [DM3\_d{1,2,...}] represent **daily** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 3
- [DM3\_m{1,2,...}] represent **monthly** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 3
- [DM3\_a{1,2,...}] represent **annual** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 3
- [DM4\_d{1,2,...}] represent **daily** recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 4
represent *monthly* recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 4

represent *annual* recurring natured database reports (no. 1,2, etc.) situated in directory of Functional Module 4

From survey in the case study, it is noticed that the institutional reporting needs go beyond the recurring natured reports, which are also of non-recurring nature and are solicited by various authorities from time to time at short notices. Most often it is found that such reports need to be regenerated from various records; and the work-load for the work is also substantial. So these tasks are also incorporated in the MIS Model. The working principle for this work is that the database reports so generated directly from the TPS are first converted to spreadsheet files by way of exporting data, which are then reassembled to generate the required report. Sometimes, information from different modules are required to be reassembled, followed by calculations and analysis. These works can easily be done using spreadsheet filters, functions and macro-generated query commands.

**5.1.4 Workflow at the Institutional Cluster Level**

At the cluster level, there exist a group of institutions (or a colleges-university consortium) and a central control unit (may be named as Central Monitoring and Data Processing Center) to monitor the total system, maintain the system and provide common facilities by way of generating MIS Reports – both of recurring and non-recurring nature at daily, monthly and annual time intervals. In the present MIS Model, the function of generating and maintaining MIS is separated away from the institutional level to be done at the central level, though provisions are always there to do these activities at the grass-root level as well. The centralized data processing and management information generation works are planned after considering the economic and technical benefits that this arrangement can deliver to all the member
institutions, and thus ensuring optimum utilization of infra-structural resources through sharing of common facilities and services rendered by an expert technical team.

At this level, enterprise collaboration system is envisioned to operate, using hardware, software, data and network resources to support communication, coordination, and collaboration among the members of the workgroups. The team may rely on internet, but preferably on intranets and extranets, to collaborate via E-mail, videoconferencing, etc. and also through database consolidation process. The enterprise collaboration system may use PC workstations networked to a variety of distributed servers, situated at the local institutions. A network of client terminals may be used to run the TPS by which validated data may enter into the system through various GUI interfaces spread in different parts in different modules. The TPS at every institutional level may be administered by the local systems administrator who will regulate the exit of raw data from the local level to the central data processing level, and the entry of module-classified outputs like reports, etc. from the Central Monitoring and Data Processing Center. Enterprise collaboration system will operate at the central level under the control of the Central Systems Administrator. Security arrangements by way of firewall protection and authentication & authorization controls may exist both at the local level as well as at the central level.

The MIS Model at the cluster level is presented below in Figure 5.3, which explain its structural features and data flow.
Fig. 5.3: DFD showing MIS Model of Cluster Educational Institutions
The work of data consolidation at the central level is the most vital part of the work process. It is ensured when all the member institutions use a uniform mechanized office management system to run the TPS, and they use a uniform ‘Accounts Code Book’ to record their transactions. When this practice is ensured, data of different local units belonging to the same field can be consolidated in one place, keeping the identity of the data source intact. Therefore, it is extremely important that all the valid data that is entered into the system must have unique identity.

An exhaustive list of such valid data that the MIS Model will use to consolidate and generate object oriented information is presented below.

L_1M_1i_1, L_1M_1i_2, ..., L_1M_1i_n,  Exhaustive list of data generated in Module 1 of institution (L1).
L_1M_2i_1, L_1M_2i_2, ..., L_1M_2i_n  Exhaustive list of data generated in Module 2 of institution (L1).
L_1M_3i_1, L_1M_3i_2, ..., L_1M_3i_n  Exhaustive list of data generated in Module 3 of institution (L1).
L_1M_4i_1, L_1M_4i_2, ..., L_1M_4i_n  Exhaustive list of data generated in Module 4 of institution (L1).
L_2M_1i_1, L_2M_1i_2, ..., L_2M_1i_n  Exhaustive list of data generated in Module 1 of institution (L2).
L_2M_2i_1, L_2M_2i_2, ..., L_2M_2i_n  Exhaustive list of data generated in Module 2 of institution (L2).
L_2M_3i_1, L_2M_3i_2, ..., L_2M_3i_n  Exhaustive list of data generated in Module 3 of institution (L2).
L_2M_4i_1, L_2M_4i_2, ..., L_2M_4i_n  Exhaustive list of data generated in Module 4 of institution (L2).
..................................................  Exhaustive list of data generated in Module 1 of institution (Lr).
L_rM_1i_1, L_rM_1i_2, ..., L_rM_1i_n  Exhaustive list of data generated in Module 2 of institution (Lr).
L_rM_2i_1, L_rM_2i_2, ..., L_rM_2i_n  Exhaustive list of data generated in Module 3 of institution (Lr).
L_rM_3i_1, L_rM_3i_2, ..., L_rM_3i_n  Exhaustive list of data generated in Module 4 of institution (Lr).

Where

| L | = number of educational institutions in the cluster from 1 to r |
| i | = mutually exclusive record no. 1 to n |
| M1 | = Module (Staff Administration) |
| M2 | = Module (Student Administration) |
| M3 | = Module (FA & G Administration) |
| M4 | = Module (Library Management) |
| L1M1.d, etc. | denote directories that contain database reports in Module1 of Local Center1, etc. |
| L1M1.s, etc. | denote directories that contain database exported spreadsheet reports in Module1 of Local Center1, etc. |
In the present MIS Model, the system will maintain a set of application softwares specialized to generate object-oriented recurring natured reports. The software programmes will call the needed data that are generated in different modules in the local level institution. The data of one module may be inter-mixed with data from other modules to generate information through reports and queries for that local center. Similarly, information so generated for a particular local center may be inter-mixed with that of other institutions to generate management information for inter-firm comparison. The information so generated may be stored as database reports in directories based on modular classification local center-wise. The module-directories may be further re-classified to sub-directories to contain Daily, Monthly and Annual Reports. For non-recurring natured information, the task involve conversion of database files to spreadsheet files, followed by the re-assembly of the spreadsheet files.

5.2 Inbuilt Features under consideration in the MIS Model

In the development of a logical MIS Model to operate in practical situations, the scenario of higher education system in India and particularly that in West Bengal are considered; and based on such a study, the following features are considered to be incorporated in the Model :-

(a) The MIS Model incorporated provisions to cover Indian situations and higher education promotional policies of the Government of India, which include:

- Development of College Cluster Universities
- Public-private partnership
- Faculty and Student Mobility
- Use of Information and Communication Technology (ICT)
• Networking of Universities and Colleges through setting up of National Educational Resource Portal and expansion of E-Resource availability (INFLIBNET)

• Priority initiative to implement automation of administration and examination systems to achieve e-governance;

(b) Organizational model of ‘cluster-institutions’ setup, with a ‘Central Data Processing & Control Centre’ (may be located at the University if it is a university-colleges cluster) to monitor and coordinate the data processing works and maintain the management information system for the cluster;

(c) Database approach adopted to give independence between the file structure and program structure;

(d) Distributed database system – with the presence of individual database servers at the local institutions, monitored and coordinated by the Central Data Processing & Control Centre to generate recurring natured and non-recurring natured information by way of reports and management information;

(e) Use of a transaction processing system for off-line transaction processing - for efficient, accurate and fast processing of data through user friendly GUI menus (graphical user interfaces attempt to provide hardware, software and application wide interface independence);

(f) Modular approach taken based on functions - each module being designed keeping in mind the concepts of structural programming;
(g) Information requirements classified for management level and operational level along with frequency of its generation - recurring natured reports directly generated through TPS, non-recurring natured ones through conversion from database format to integrated spreadsheets using query filters;

(h) Inter-departmental information flow organized as data flow within modules, making the actual source of data easily identifiable;

(i) Elimination of repeated works through one-time data entry of particular record through specified input menu situated in any part of the functional modules, storing the entered data in modular database tables, and performing data mining works to generate information;

(j) Elimination of double entry of same data, following the data redundancy principles, through more use of combo boxes which also eliminates typographical errors;

(k) Elimination of ‘garbage data’ at its entry points through use of a variety of simple control mechanisms, including double entry with machine-based comparisons to improve accuracy, control totals as an alternative to avoid any pattern of error, built-in parity error checking, checksums, and so on;

(l) Easily available and maintainable updated hardwares for the system - workstations for central and local servers, Pentium IV desktops for frontend ‘clients’, ADSL Modem with wi-fi router for internet connectivity within the campus;
(m) Upgradable popular softwares – for operating system (Windows), relational
database (SQL /Oracle), security system (any popular antivirus software);

(n) Local area network within the local campus of the institutions, preferably
with wi-fi environment;

(o) Backup and recovery issues include disaster management. Security issues
include encryption schemes that crypt the data and the converse schemes to
decipher the encrypted data, only in multi-level network environment, when
connectivity is maintained through internet;

(p) Integration and inter-operability of the main MIS Module with other
computer systems that manage different lines of business, like online
application for admission & merit-listing, online tutoring & e-learning
management, etc.

5.3 Technological Aspects

In fast changing scenario of end-user needs and demands, the MIS Model is made
flexible enough to accommodate constantly changing application requirements. In
line to this approach, the development tools that need to be chosen for the Model, that
will operate in client / server environment, should coordinate its operations and work
in harmony with many aspects of the whole system.

5.3.1 Use Of Client-Server Architecture

The Model has been designed to follow the client-server architecture. The main
reasons to do this are the benefits that a client-server configuration can offer,
including improved performance, security, and reliability. This client/server application is expected to have these characteristics:

- **Centralized Intelligent Servers**: the server should be more than just a file repository where multiple users share file sectors over a network, but also they should carry out commands in the form of Structured Query Language (SQL) questions and return answers in the form of result sets.

- **Network Connectivity**: the server should be connected to clients by way of a network. This could be a LAN, WAN, or the Internet.

- **Operationally Challenged Workstations**: the client computer need not run a particularly complex application. It must simply be able to display results from a query and capture criteria from a user for subsequent requests.

### 5.3.2 Flexible Development Tools

Rapid Application Development (RAD) Tools such as Visual Basic may be used to build the client/server applications. Using Visual Basic, a developer can code applications in the form of executable files, DLLs, and Active X Components, and execute them virtually anywhere in the system. The applications can be used on the Web as Active Documents or as Web-page-based Active X controls without changing a line of code. A developer using Visual Basic can create applications and components in any of the Microsoft Office applications, including Microsoft Word, Microsoft Excel, Microsoft Power Point, or Microsoft Project. These applications are added to the third party applications that have integrated Visual Basic for Applications as their native macro language. Such software solutions can execute anywhere from local in-process modules to remote server. SQL server can execute them through extended stored procedures.
5.3.3 Operating System

In the client/server model, the operating system is divided into several processes, each of which implement a single set of services. Each server runs in user mode, executing a loop that checks whether a client has requested one of its services. The client is another operating system component or an application program that requests a service by sending a message to the server. The operating system kernel running in kernel mode delivers the message to the server; the server performs an operation, and the kernel returns the results to the client in another message. The client/server approach results in an operating system whose components are small and self-contained. Because each server runs in a separate user-mode process, partitioned into its own memory, and thus protected from other processes, a failure of a single server process does not corrupt or crash the rest of the operating system. Furthermore, because servers run in user mode, they cannot directly access the hardware or modify memory in which the operating system executive is stored. Windows NT uses the client/server model, which is suitable for the institutes having multi-user networked environment. For institutes not having networked environment, Windows 98//xp/or later can serve the purpose.

5.3.4 Front-end Interfaces

*Visual Basic* can be used for interface designing – to design the input screens with provisions for verifications and validation checks, by using the following tools:

- Data View Window: to provide a visual mechanism for establishing connections to data and then viewing or modifying the data, which is project independent; so once defined, the connections appear throughout.
• Data Report Designer: tool that allow one to drag and drop information from the Data View window directly onto a report. Crystal Reports may be more useful, but it is not automatically installed.

5.3.5 Back End Database

One of the popular software that can be used for the database is SQL Server. The justification of its suitability in the MIS Model may be its compatibility features.

• It can run on operating systems such as Windows 98/ XP Professional/ NT Workstation 4.0 with SP5 or later. Industry-leading support for XML, enhanced tools for system management and tuning, and exceptional scalability and reliability make SQL Server the best choice.

• As SQL is network independent and relies on open industry standards, it can run on most popular network, including IBM LAN server, Microsoft LAN Manager, Novell Netware, Banyan VINES, DEC PATHWORKS, Apple Apple Talk, and Windows NT/2000 server based networks.

• SQL server is a server-based DBMS. The data and indexes reside on a single machine that is accessed over the network. Clients send SQL statements over the network to SQL server, which processes the statements and then sends results and/or messages to the clients.

5.4 Information Outputs Classified

Effective MIS systems enable the college, staff and students to function effectively in their respective roles by providing just-in-time information through generated reports – both of recurring nature and of non-recurring nature. For teaching staff, effective MIS systems should enable them to manage the timetables & room utilization, monitor students’ attendance, plan examination schedules and generate results,
provide student with course information and facilitate distance learning-teaching programmes, etc.. For non-teaching staff, MIS systems should support in their works that includes enrolling students, maintain students’ database, collect course fees, marking and processing registers, ensure security of college ICT systems, supporting and maintaining the college website, maintaining data for the e-prospectus, etc. For administrators, effective MIS systems should help them to manage through management reporting, optimal, clarifying procedures & systems, providing accurate performance data /inspection-audit compliance reports, etc. For the students, effective MIS systems should remove barriers and ensure that the learning process and other aspects of their day to day college life are effective by providing enrolment and granting identity cards, timetable and room information, to get access of ICT enabled educational services, etc.

The present MIS Model may generate a variety of recurring nature reports, which are generally the database reports. The contents of such reports are to be specified in advance, and would relate to transactions processed by the TPS. Such recurring nature reports may be stored in separate modular directories and may be kept further sub-classified in daily, monthly or yearly sub-directories. Provisions are kept in the Model to generate non-recurring nature reports also (as explained in Sec. 5.1).

A comprehensive list (however, not exhaustive) of major recurring nature reports that should find place in the directories of the functional modules are listed below.

\[A – annual report, M – monthly report, D – daily report\]

5.4.1 Students’ Administration Module
(i) Master Settings Report
- Courses/ Semesters List year-wise \([A]\)
- Students’ Batch List \([A]\)
(ii) **Fees Related Reports**
- Fee Structure – coursewise [A]
- Fees Status Report (to shows the total fees each student has to pay yearwise/semester-wise, amount already paid, balance amount, concession if any etc.) [M]
- Fees Receipt Report / Fees Invoice Report [D]
- Fees Receipt – summary list [M/D]
- Caution Deposit Status Report [M]
- Fees Receipts Accounts wise Detailed (related to Finance) [D]
- Fees Receipts Accounts wise Summary (related to Finance) [M]
- Hostel Fees Payment Status [M]
- Receipt Reversal Notes [M/D]
- Students’ Fees Transaction Report / Summary [D/M]

(iii) **Student’s List**
- Merit List for admission [A]
- Enrollment List --merit list-wise [A]
- Students’ Master List (with unique auto generated roll no.batchwise) [A]
- Students’ List - discontinued/ migrated batchwise [A/M]
- Students’ List – ongoing batchwise / coursewise [A/M]
- Students’ List – hostel [A]
- Registration List of Students – batchwise [A]

(iv) **Academic Reports**
- Students’ Progress Report [A]
- Students’ Attendance Sheet Summary - coursewise/subjectwise/yearwise/semesterwise [A/M]
- Absentee Analysis - absent students’ percentage report (coursewise) [A]
- Student Performance Analysis Reports [A/M]
- Pre-defined assignments for each semester [A/M]
- Marks/Grades entry for assignments (by Faculty/Teachers) [A]
- Examination Schedules – batchwise/ coursewise [A/M]
- Academic Diary and Notifications [D/M]
- Reports of Extracurricular Events & Training Programmes [A/M]
- Online Faculty Evaluation [D/M]
• Computer based Complaints Logging/ processing & Individuals’ Complaints History & Solution Response Status [D/M]
• Visiting Faculty Honorarium Payment Advice [D/M]
• Project-wise Report Summary [A]
• Periodic Comparative Statement of different programmes [A]

(v) Time Table
• Timetable – batchwise / coursewise / studentwise/ teacherwise [A/M]
• Room Allocation (class-wise) / campus allocation (studentwise) [D/M]

5.4.2 Library Management & Information Resource Centre (IRC) Module
• Library Books Inventory [A]
• Library Clerance Certificate - for students [A]
• Staff Issue Register [D/M]
• Books Issued/Return Record [D/M]
• Defaulter List [A/M]
• Late Fine Collection [D/M]

5.4.3 Staff Administration Module
(i) Staff Master
• Appointment Book of Staff / Staff Master [A]
• Service Book [A]
• Academic Diary – of teaching staff [D/M]

(ii) Payroll
• Staff Attendance Report [D/M]
• Leave Record [D/M]
• DPI Claims [M/A]
• Treasury Challans [M/A]
• Bank Debit Memo [M]
• Pay slips / Pay statement [M]
• PF Statement [A]
• Form 16 [A]

5.4.4 Finance-Accounts & General Administration Module
(i) Finance
• Bank Reconciliation Statement [M]
• Budget Control Registrar [M/A]
• Audit Compliance Reports [A]
• Form 24 [A]
• PF Returns [A]
• Professional Tax Returns [A]
• Acquaintance Register [M]
• Consolidation of Joint Accounts & Contra Adjustments – cluster wise [A]

(ii) Accounts
• General Ledger [D/M]
• Creditors Individual Ledger [M]
• Student Individual Ledger [D/M]
• Daily/Monthly Transaction Report [D/M]
• Student Payments [D/M]
• Student Fee Record [D/M]
• Student Defaulter List [M/A]
• Trial Balance [A]
• Books of Account including Schedules [A]
• Cash & Bank Book [D/A]
• Online Vouchers – payments [D]

(iii) General administration
• Stores Ledger Control Register [D/M]
• Assets Register [A]
• Purchases Record [D/M]
• Consolidation List of Common Facility Services – cluster wise [A]
• Consolidation of MIS Reports – cluster wise [A]