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| Process | System Roles | | | | | |
| Human | Non-Computing Hardware | Computing Hardware | Software | Database | Network & Communication |
| Management collects the PLOs | **IEB**  i)Provides the PLOs to the management  **Admin**  ii)Receives the PLOs from the management  iii)Upload the PLOs to database  **Faculty**  iv)Will get the softcopy of the PLOs booklet from the database | **Booklet**  i)contain the details of PLOs  **Notebook and Pen**  ii)for writing information regarding PLOs | **Computer**  i)IEB will create the softcopy of the PLOs booklet for all the universities  ii)Management will receive access to view and use the PLOs booklet’s softcopy from the IEB  **Printer**  iii)Management, Admin & Faculty can print the PLOs booklet as per required.  **Mobile Phone**  iv) IEB, Management, Admin and Faculty can communicate using phones. | **Google Sheets and Microsoft Excel**  i)for creating, storing and retrieving the PLOs  **Email Software**  ii) IEB, Management, Admin and Faculty can communicate using email. | **University’s Database**  i)for storing the received PLOs details | **Internet**  i)IEB used to create the PLOs booklet and store it  ii)IEB used to give access of the PLOs detail to the universities.  iii)Universities used to store the PLOs in their database  iv) Management, admin & faculties used to retrieve the PLOs information and to communicate between them . |
| COs being mapped based on PLOs | **Faculty**  i)Study the PLOs and map the COs of a course based on PLOs and syllabus  ii)Then send it to the admin via email  **Admin**  iii) Receive the file and update it in the excel file. | **Pen & Paper**  i)If the faculty or the admin wants to do the mapping manually | **Computer**  i)Faculty used to do the mapping  ii)Admin used to receive the files  **Printer**  i) Printing the faculty’s files for backup storage. | **Google Sheets and Microsoft Excel**  i)Faculty used to do the mapping  ii)Admin used to update and compile all the faculties COs files  **Email Software**  i)Faculty and Admin used to send and receive files |  | **Internet**  i)used to send and receive emails |
| UGC approves curriculum of COs mapped based on PLOs | **Management**  i)Sends the file of COs mapped on PLOs to UGC  ii)If approved: the management will publish the file  iii)If not approved: the management will ask the faculties to update it according to the guide line of the UGC and send it for approval again.  UGC  iii)Receives the file and review it. Either gives approval or sends feedback to follow the guideline of UGC. | **Paper**  i)If the management or the UCG wants to print the files | **Computer**  i)Used for sending and receiving the mail  Printer  i)Used if management or UGC wants to print the file | **Microsoft Excel and Google Sheets**  i)To view and edit the file  Email Software  ii)To send and receive the email | **University’s database**  i)Store the approved file | **Internet**  i)used to send and receive emails |
| Conducting Examination | Faculty  i)According to the COs the question paper is set  ii)Classrooms, date and time are decided  iii)Invigilate and collect student’s answer scripts  Student  i)Sit for the exam and submit the answer scripts. | Chair, Table &clock  i)Used during the exam  Pen and Paper  i)Students used for writing the answer scripts  ii)Faculty used for printing the question papers | Computer  i)Faculty used to make the question paper  ii)Students might use to take examination  Printer  i)Faculty used to print the QP | Microsoft Office  i)to view the COs mapping of the PLOs  ii)to write the QP and edit it if needed  Google Classroom  iii)Google form  i)Faculty to assign a QP for an exam  ii)Students to answer the questions |  | Internet  i)Faculties use for viewing the COs mapping of PLOs  ii)Faculty to upload the QP in the Google class room  iii)Students to answer for the exams |
| Students evaluated by the teachers and updated results are stored in the database | Faculty  i)Collect the answer scripts from the students  ii)Check the papers and mark accordingly on the COs  iii)Submit the compiled file of the COs marks to the admin and return the answer scripts to the students  Admin  iv) Receive the mail and upload it in the database | Pen and Paper  i)Faculties use to check the answer scripts and mark accordingly | Computer  i)Faculty use to store the making list files  ii)Faculty use to send the files to admin  iii)Admin use to receive the file and upload it the database  Printer  iv)Faculties may print the COs files for backup storage. | Microsoft Office  i)Faculty store the COs marking files  ii)Admin use to store all the faculties files. | Microsoft Office  i)Admin will store the COs marks of the students | Internet  i)Used by Faculties to send COs to admin via email.  ii)Used by Admin to receive emails and upload the COs markings of the students |
| Students request for generating transcripts | Student  i)Request to get the transcript to the admin  ii)Provide the required information to the admin  Admin  iii) After receiving the request and the required information of the student retrieve the student’s information and make a separate file  iv)Provide the transcript to the student | Pen and Paper  i)Students use to provide the required info to the admin for getting the transcript  ii)Student will receive a transcript hardcopy | Computer  i)Amin will use to retrieve the student’s information and make a separate file  Printer  ii)Admin will use to print the transcript for the student | Microsoft office  i)Admin use to access the student’s details | University’s database or Microsoft Office  i) Admin use to access the student’s details | Internet  i)Admin use to retrieve student’s informations |