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EDUCATIONAL TECHNOLOGY & ICT

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CONCEPT AND USES OF MS WORD, MS EXCEL, AND MS POWERPOINT

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OBJECTIVES

- After going through this topic, students will be able to:
- Uses of Common Office Suite Software (Word, PowerPoint, Excel) in Education
- Learn general etiquettes for using Office Suites.

What is an Office Suite?

An office suite is a complete bundled package of productivity software designed for office management and work. They have a consistent user-interface . Personal computers are mainly used for office suite software in office suites.

Note- Interface means by which humans communicate with a software via graphics, buttons etc.

BASIC CONCEPTS OF OFFICE SUITE SOFTWARE

1. Word processor (MS Word)

A word processor is used to manipulate text. It is able to edit, revise, store, format and print any document(letters, reports, manuscripts etc.). Any text in a word processor can be manipulated and formatted selectively using 'selective blocks' via mouse/keyboard. Usually the selected

blocks are blue in color. Words can also be found and replaced in the entire document/selection at once. Images, Diagrams and Charts can be inserted accordingly.
Examples - Microsoft Word, LibreOffice Writer, Google Docs etc.

2. Spreadsheet software(MS Excel)

A spreadsheet processor is designed to perform calculations on the spreadsheet data based on formulas input by the user. The data can also be converted into Analytical Graphics. Any spreadsheet consists of a grid made by rows(horizontal direction) and columns(vertical direction). Any cell in the grid can be identified by its Row Number and Column Alphabet

	A	B	C
1			
2			
3			
4			
5			

Examples - Microsoft Excel, LibreOffice Calc, Google Sheets etc.

3. Presentation software(MS PowerPoint)

A presentation processing software is used to generate presentation graphics. It provides tools to combine text, audio media and visual media into a series of digital slides. Analytical graphics such as pie charts, bar graphs etc. can also be inserted into a slide. Animations can also be applied to all media accordingly.

2 graphics used to display/present data to others

3 graphics used to represent numerical data

Designed and stored slides can be printed or displayed on a projector.

Examples - Microsoft PowerPoint, LibreOffice Impress, Google Slides etc.

USES OF OFFICE SUITES IN EDUCATION

Office Suites have become an entire framework supporting modern education and office. Electronic notes, charts and diagrams greatly help teachers and students in understanding complex topics.

1. Uses of MS word

Following are some of the uses of word processors in education

1. E-Content Generation

- A new trend of providing customized notes to students directly in graphic-text format is emerging.

- An educational E-content can include notes, references to books, name of institution, course and subject title, images, charts etc. All of these can be inserted using a word processor.
- E-content generated by educators are often uploaded to Internet websites for anyone to read online.
- E-contents are often uploaded in hardware software independent formats such as PDF. It allows anyone to read formatting correctly on any computer system with a PDF reader available.
- This is creating a electronic self-learning environment for students.

2. Group Controlled Instruction

- The write-ups for Group interactive Sessions and learning sheets for Group Discussion involving
- Team Work can be easily generated via a Word Processor.
- Using a word processor allows storage of a digital version and easy printing.

3. Other Miscellaneous Uses

- Preparation of question papers for exams in schools, colleges. Question papers for huge central exams are not created using a word processor. Instead, they use a typesetting software.
- Document creation for majority of educational administration, at any level is done using word processors
- Like educators, now-a-days students also use customized word processors for storing their notes.

2. Uses of presentation software (MS PowerPoint) in education

Data presentation in audio-visual-text format to any audience is done using Presentation Software and Projectors(machine to project image onto a screen, like in cinemas). Following are some of the uses of presentation software:

1. In classroom environment

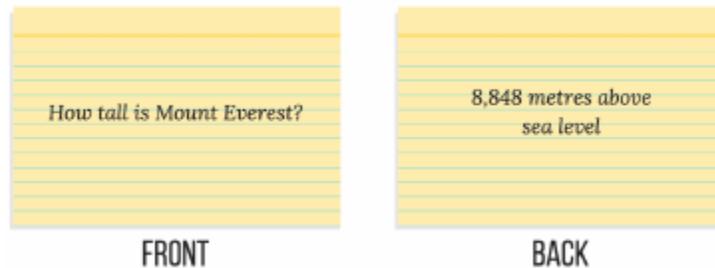
- Many modern institutions have image projectors integrated using a white-board as a screen. Some screens are touch-enabled.☐
- Presentation slides with brief bullet points(*short and precise key phrase*) , concept charts, images etc. are compiled by the educator to facilitate teaching in classroom.
- All Presentation Software have “Slide Show” feature to display all the slides in series with animations, audio, video etc.
- Students learn by visual understanding and revise by bullet representation of data.
- Slides can also be made appealing to middle school students via use of animations.

2. Any educational presentation must ^[1]

- Have bullet points explain key concept/sub concept in around 10 words.
- Contain 15-20 slides for 50-60 minutes of presentation.
- “A picture is worth a thousand words”, graphical representations should be used to represent complex concepts.
- Any slide must not have more than 2 images.
- Use text colours and formatting to represent ideas. Example - Positive and Negative.

3. Other Miscellaneous uses

- Flashcards slide shows are used to create and display flashcard quizzes for a classroom.
- A flashcard in real life is a card bearing information on both sides.
- Flashcard slide-shows can be used to create a group activity or conduct revision of topic(s) in a classroom via Question and Answer Sessions.



Note : Flashcards are for testing, not summarising.

4. Group Activities

- Interactive Slide Shows and Presentations can facilitate scoring in a quiz session.
- Outcomes of group discussions and other activities can also be facilitated.

3. Uses of spreadsheet software (MS Excel) in education

Processing, analysis and visualization of numerical data in tabular grid is done by Excel. It has the following uses in Education :

1. Educational Administration and Management

- Entire management workflow of an institution is backed up by spreadsheets.
- Databases of student scores/grades, identification, identities of educators/staff, result of polls/votes and other tabular data is easily created and processed by spreadsheet software.
- Management monitoring, evaluation and reporting via functional charts is a hassle-free task.
- Schedules and Time Management
- Spreadsheet software facilitates creation of large time management schedules and routines.

- Routines for Group Controlled Instruction methods can be easily managed using spreadsheet software.

2. In Classroom environment

- Educators use spreadsheet software when teaching statistics or statistical data to create graphic_charts and plots.
- Result of classroom surveys ,quizzes and activities_is input into spreadsheets for better visualisation and measure of classroom learning environment.
- A student’s learning progress can be individually tracked using spreadsheets.
- Similarly, the educator can also check effectiveness of certain activities on students and student groups. This data can provide information about interactive ability of a student in Group Controlled Sessions.
- Data generated by using spreadsheets helps educators improve their teaching abilities and enhance their individual student assessment skills in Evidence-based Education.

3. In Educational Research

- Spreadsheet software is used to any sort of data in research field.
- Phases -
 - Input of results of Data Collection
 - Data Processing
 - Visualization and analysis of collected data by charts, figures etc.

REFERENCES

[1] : Allan M Jones. “The use and abuse of PowerPoint in Teaching and Learning in the Life Sciences: A Personal Overview”. In: *Bioscience Education 2.1* (2003), pp. 1–13. DOI: 10.3108/beej.2003.02000004.

SELF-CHECK QUESTIONS

1. Explain the concept of Office Suite.
2. What are the uses of MS Word, MS Excel and MS PowerPoint?
3. How is MS Word, MS Excel and MS PowerPoint helpful tool in student-teacher education?

TOPIC(S) FOR NEXT CLASS

System approach in education

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