

(A NCTE recognized Govt. Aided (WB) Autonomous Post-Graduate College under University of Calcutta)
Belur Math, Howrah - 711 202, West Bengal

2.4.5 Adequate skills are developed in students for effective use of ICT for teaching learning process in respect of

- 1. Preparation of lesson plans
- 2. Developing assessment tools for both online and offline learning
- 3. Effective use of social media/learning apps/adaptive devices for learning
- 4. Identifying and selecting/ developing online learning resources

Documentary evidence in support of each response selected

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Swami Vidyamritananda Principal (Offg.) Ramakrishna Mission Sikshanamandira Belur Math, Howrah-711202, W.B.



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1. Preparation of lesson plans:

To develop adequate skills in trainee-teachers at RKM Sikshanamandira for effective use of Information and Communication Technology (ICT) in the teaching and learning process, a comprehensive approach is essential. Here are some steps and strategies that are employed to achieve this goal:

ICT Integration Special Sessions:

Conducting regular workshops and training sessions for trainee-teachers to familiarise them with ICT tools and resources and providing hands-on training on using computers, tablets, projectors, and relevant software.

Digital Literacy Training:

Ensuring that trainee-teachers are proficient in basic computer skills, including file management, internet browsing, and troubleshooting common issues.

Lesson Planning with ICT:

Teaching trainee-teachers how to integrate ICT into lesson planning and emphasising the importance of aligning technology use with learning objectives.

Access to Educational Resources:

Providing access to a repository of digital educational resources, including e-books, educational websites, and online journals.

Online Course Management Systems:

Familiarising trainee-teachers with learning management systems (LMS) such as Moodle or Google Classroom for organising and delivering course materials.

Powerpoint Presentations through overhead projector:

Training teachers in using powerpoint presentation through overhead projector effectively for engaging lessons.

Creation of Digital Content:

Teaching trainee-teachers how to create multimedia content, such as presentations, videos, and interactive quizzes.

Internet Safety and Digital Citizenship:

Educating trainee-teachers and students about online safety and responsible digital citizenship.



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Collaborative Learning and Communication:

Encouraging the use of online collaboration tools, such as discussion forums, video conferencing, and email, to foster communication and teamwork.

Assessment and Feedback:

Explaining how to use ICT for formative and summative assessment, including online quizzes and grading tools.

Pedagogical Training:

Helping trainee-teachers understand pedagogical strategies for effective ICT integration, such as blended learning, flipped classrooms, and personalised learning.

Continuous Support and Troubleshooting:

Establishing a support system for trainee-teachers and addressing their concerns and technical issues promptly.

Real-world Application:

Provide opportunities for trainee-teachers to practise what they've learned by incorporating ICT into actual teaching sessions.

By implementing these strategies, RKM Sikshanamandira ensures that trainee-teachers develop the skills necessary for the effective use of ICT in the teaching and learning process, including the preparation of lesson plans that incorporate technology in a meaningful and pedagogically sound manner. Some of the samples of digitally prepared lesson plans are given below to corroborate the claim.





Preparing Digital Lesson Plan

LEARNING DESIGN

SCHOOL- UTTARPARA GOVT. HIGH

SCHOOL

CLASS-XI DATE- 29.03.2022 DURATION- 40 MIN TEACHER- Suman Mondal ROLL NO- F-42. SUBJECT- CHEMISTRY

UNIT- STEREOCHEMISTRY SUB UNIT –

- 1. CONCEPT OF STEREOCHEMISTRY
- 2. STEREOISOMER
- CONSTITUTIONAL ISOMER.TODAY'S TOPIC- STEREOISOMER.

LEARNING GOALS/OBJECTIVES

Remembering	a)Students know the concept of chiral carbon and Condition of having Chiral molecule.
	b) Students know the chiral center and
	Stereogenic Carbon center-
Understanding	a) Students understand the difference bet? Constitutional and Stereo isomer.
	b)Students Understand the difference bet and E12 Configuration.
Applying	a)Students can apply their knowledge to identify enantiomer and diastereomers.
	b) students can apply their knowledge to identify active and meso compound.



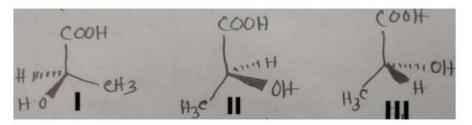
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Analyzing	a) Students can analyze the energy among all conformation of n-butane. b) Students Can analyze Newman and sawhorse
	configuration. with proper projection formula.
Evaluating	a) Students can evaluate the importance of stereochemistry in daily life.
	b) Students can evaluate the difference between gauch and staggered conformation.
Creating	 a) Students can create a model of Tartaric and with proper configuration.
	b) Students can make a cis and trans isomer with ball and Stick model.

ANALYZE THE LEARNER CONTEXT

- 1. Students know the energy difference between gauche and staggered form of n-butane.
- 2. Students know the relationship between all these I, II, III three compounds.



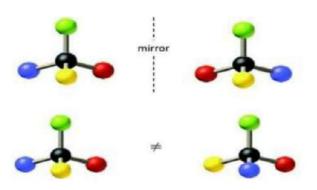


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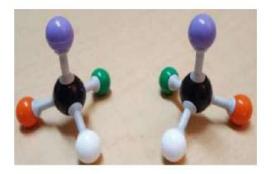
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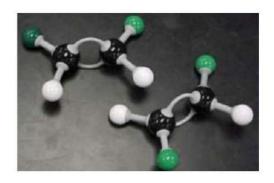
TEACHING LEARNING MATERIALS

1. Chalk 2. Duster 3. Blackboard 4. Book 5. Charts and Models.













TEACHING LEARNING STRATEGIES

Concept	Teacher's role	Student's role	Black Board work
Classification of Stereoisomer	Lecture cum Demonstration Method Teacher will teach the concept of stereoisimers with proper classification and chart.	Students will understand the concept then interact with teacher regarding their doubts.	Constitutional (structural) isomers Cistrans comers Cistrans comers Cistrans comers Cistrans comers Conformers H,C H,C H,C H,C H,C H,C H,C H,
Conformational isomer	Lecture cum Demonstration Method Teacher will teach the concept of Conformational isomers with proper classification and Model.	Students will understand the concept then interact with teacher regarding their doubts.	CH ₃ H H H H H H H H H H H H H H H H H H H

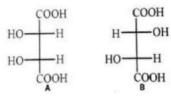


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HOME ASSIGNMENT

- 1. How you will separate diastereomeric pair Compounds?
- 2. Between compound A and B which will be optically active HO-and which one optically in active and why?



3. What is the difference between Cis/Trans and E/Z isomer?

DIAGNOSIS OF WEAKNESSES FOR REMEDIAL CLASSES

After Evaluation, remedial class will be arranged for weak and unsuccessful students (if any) where the Problem arising port of the topic I will be taught again with effective teaching strategies and more easy and interesting way.





Emanations and Diastereomers	Lecture cum Demonstration Method Teacher will teach the concept of Stereoisimers with proper classification and chart	Students will understand the concept then interact with teacher regarding their doubts.	Enantiomer H H C H H C B B C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H H C H C H H H C H H H C H H H H H C H	Enantiomer H H H H H H H H H H H H H H H H H H
Cis/ Trans and E/Z isomers	Lecture cum Demonstration Method Teacher will teach the concept of Cis/Trans and E/Z with proper classification and Model.	Students will understand the concept then interact with teacher regarding their doubts.	CIS CIS CIS CIS CH ₂ CH ₃ CH ₃ CH ₂ CH ₃	Trans CI F H Br E-configuration

DESIGN FOR EVALUATION

- 1. what is the difference between Enantiomer and Diastereomer?
- 2. what is the difference between conformational and Configuration isomer?
- 3. Draw the two isomer of C₂H₆O molecular formula.



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Learning Design

School: Uttarpara Govt. High School Subje

Subject: Physical Science

Class: x

Unit: Behavior of Gases

Sub-Unit:

Time : 45 Mins

• Pressure and volume

Date : 05.04.2022

Boyle's law

<u>Teacher</u>: Bhairab Singha (F-09)

Charles's lawAbsolute temperature scale

• Combination of Boyle's &

Charles's laws

Avogadro's Hypothesis & ideal

gas

Today's lesson: Combination of

Boyle's & Charles's laws

➤ <u>Learning Objectives</u>:

After completing the lesson the students will be able to

Remembering	 Tell the formula of combined gas law. Remember that temperature should always be in Kelvin scale.
Understanding	 Understand how the formula of combined gas law is formed. Demonstrate the formula.
Applying	 Solve different types of problem about combined gas law.
Analysing	 Analyse how Boyle's and Charles's laws are combined. Analyse why temperature should always be in Kelvin scale in that formula.
Evaluating	1. Evaluate the problems regarding combined gas law.



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Creating	 Represent the formula in chart.
	2. Apply this formula in higher courses.

Analysing Learners and Context :

To understand the primary behavior and previous knowledge of the students the following questions will be asked:

- 1. State Boyle's law.
- 2. What is the mathematical formulation of Boyle's law?
- 3. State Charles's law with respect to absolute temperature scale.

Learning Materials:

- 1. Textbook: Physical Science & Environment, class x, Calcutta Book House.
- 2. Supporting Materials: Chalk, Duster, Blackboard, Chart.

Learning Strategies :

Learning Areas	Related Strategies
Combination of Boyle's & Charles's laws	By using lecture and demonstration method with questioning, the formula will be established. Let us suppose, amount of gas = n mole, temperature = T K, pressure = P, volume = V. Q: State Boyle's law. A: The pressure and volume of a gas are inversely proportional to each other as long as the temperature and the quantity of the gas are kept constant. Therefore, $V \propto 1/$, when n & T are constant (i) Q: State Charles's law regarding absolute temperature. A: The Kelvin temperature and the volume will be in direct proportion when the pressure and the quantity of the gas are kept constant. Therefore, $V \propto T$, when n & P are constant



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	For an n mole quantity of gas, if volume is V_1 in pressure P_1 and temperature T_1 and volume is V_2 in pressure P_2 and temperature T_2 , then $ (P_1 V_1)/T_1 = (P_2 V_2)/T_2 \dots (*) $
A simple problem and	A problem will be presented in the blackboard and it will be solved by problem solving method.
solution	Q: The initial volume of a gas is 6L and its final volume is 3L. Find out the final pressure of the gas such that the initial temperature is 0° C while the
	final temperature is 200K. Moreover, 25K Pa is the initial pressure.
	A: Here, $P_1 = 25 \text{ K Pa}$, $V_1 = 6 \text{ L}$, $T_1 = 273 + 0 = 273 \text{ K}$ and $V_2 = 3 \text{ L}$, $T_2 = 200 \text{ K}$.
	Then $(P_1 V_1)/T_1 = (P_2 V_2)/T_2$
	or, (25 * 6)/ 273 = (P ₂ * 3)/ 200
	or, $P_2 = 36.626$ K Pa, which is the final pressure.

> Design for Evaluation :

- 1. Derive the formula of combined gas law.
- 2. Why the temperature should always be in Kelvin scale in that formula?
- 3. The initial volume of a gas is 10L and its final volume is 20L. Find out the final pressure of the gas such that the initial temperature is 0°C while the final temperature is 373 K. Moreover, 50K Pa is the initial pressure.

> Diagnosing the weakness for remedial class :

If students have weakness in today's lesson then remedial classes will be arranged.



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Learning Design (Physical Science)

Name of the School: Uttarpara Amarendra

Vidyapith

Class : VIII

Time/Duration : 45 min.

Date : 04.04.2022

Name of the teacher: Suman Halder (F-32)

Subject: Physical Science

Teaching unit: Work and

Energy

Subunit : (i) Work

*(ii) Energy

Today's Lesson : Energy

Learning Goals: after completing the unit Student unit will be able to:

Remembering	*Write the meaning of Energy (Factual kmbowledge) *Name the different type of source of energy (Factual Knowledge)
Understanding	*Discuss is small group how certain sources of energy are due to the seen (conceptual knowledge) *Illustrate what kind of energy is used by fire crackers (conceptual knowledge)
Applying	*Solve the energy forwarded by an object of mass 10 Kg when it is at a height of 6 m above the ground. Consider g = 9.8 ms ⁻² (Procedural knowledge) *Examine, the two either, say A and B. Let us say they weight the same. Both start climbing up a rope separately. Both reach a height of 8m. Let us say A takes 15s while B takes 20s to accomplish the task. Q1. What is the work done by each? Q2. The work done is the same, However A has taken less time
	than B to do the work Q3. Who has done more work in a given time say in 1s? (Procedural knowledge)
Analyzing	*Explain the law of Conservation of energy. (Procedural knowledge) *Organize small groups and discuss the various ways of energy conversion in nature. (Procedural knowledge)



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'Are there source	es of energy whi	ch are not due to t	he Sun.
Kinetic energy in	each case.		
Height at which object	Potential energy (E _p = mgh)	Kinetic Energy (E _k = mV ² /2)	E _p + E _k
<u>m</u>	<u>J</u>	Ā	<u>J</u>
4			
3			
2			
1			
Just the above the ground			
	*Construct the takinetic energy in Gives – An object Height at which object m 4 3 2 1 Just the above the	*Construct the table by computing Kinetic energy in each case. Gives – An object of mass 20Kg Height at which object m Potential energy (Ep = mgh) M J 4 3 2 1 Just the above the	'Are there sources of energy which are not due to to (Procedural knowledge) *Construct the table by computing the potential energy in each case. Gives – An object of mass 20Kg is dropped from a Height at which object energy (E _p = mgh) Mathematical energy (E _k = mV²/2) Mathematical energy (E _k = mV²/2)

Analyze learners and contents :-

The following question will be asked to the students to determine. Their general characteristics and primary behaviour on the basis of the present lesson.

- Q1. How do green plants produce food?
- Q2. What kinds of energy conversions sustain the water cycle?
- Q3. Why does the air move from place to place?
- Q4. Write an expression for the Kinetic energy of an object?



blackboard.	e sources of ene	igy on the
SOURCES OF ENERG	Y:-	
1.SUN		
2.WIND		
3.WATER		
4.ATOM		
and demonstration method.	(5.5)	h discussions
<u>Design for Evaluation</u> <u>WORKSHEET</u>	<u>on :-</u>	<u>Mark – 10</u>
anks :-		[3]
source of energy on earth is the	37	_(f.k.)
nd of energy is used and produced	in the following	(p.k.) [4]
	Used	Produced
ulb		
i	1.SUN 2.WIND 3.WATER 4.ATOM The teacher will explain the source and demonstration method. Through active participation of the WORKSHEET lanks:- onvertsenergy into source of energy on earth is the s with the help of	2.WIND 3.WATER 4.ATOM The teacher will explain the sources of energy with and demonstration method. Through active participation of the students. Design for Evaluation: WORKSHEET lanks:- energy intoenergy intoenergy (c.k.) s with the help ofenergy (c.k.) ind of energy is used and produced in the following Used



Q3. Solve the prol	blems :-	[3]
	60 W is used for 6h per day. Calculate	
If there is any nee	<u>Diagnosis for Remedial Classes</u> ed of remedial class then the teacher will	
il thore is arry nee	d of formodial clade their the teacher will	
the needs.		



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Develop and select learning materials :-

General learning materials :-

- Blackboard
- Duster
- Chalk
- School Book

Specific learning materials :-

- · Reference note
- Charts
- PPT

Learning Strategies

<u>Learning Strategies</u>
The teacher will discuss about the Energy is the ability to do work. Without energy no work is possible. We need energy to
walk, talk, play, laugh, run etc. We get our energy from the food we eat. Machines also need energy to do work. They get energy from fuels like coal, wood, petrol etc. Energy can changes from one form to another.
The teacher will show a chart about the kinds of energy.
KINDS OF ENERGY:-
1}MUSCULAR ENERGY
2}HEAT ENERGY
3}ELECTRICAL ENERGY
4}CHEMICAL ENERGY
The students will ask question after the discussion of these kinds of energy and get cleared by the teacher.



	 16. Click on next record icon to preview the next letter and previous letter icon to preview the previous letter. 17. Click on finish and merge. 18. Click on edit individual documents. The merge to new document dialog box appears. Choose the radio buttonto specify which people from your mailing list, you want to create letters for (All / current / from) 19. Click on ok to create letters. Word opens a new document and creates the personalized letters in the document. 20. Scroll through to see all the pages of your mail merge. 	
 3. What do you mean by ali 4. What is indentation? 5. What is a spacing? 6. What is mail merge? Wh 7. Fill in the blanks: a view dis b. We can drag zoom b to zoom out the docu c. Macro function is ava 	y is it used? plays a webpage preview of your document. utton in the to zoom in and drag zoom bu	tton in



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LEARNING DESIGN

NAME OF SCHOOL-SUBJECT- Computer Science M C K Vidyapeeth CLASS- IX TEACHING UNIT- Word processing **DURATION- 45 minutes** SUB UNIT-· Formatting, paragraphs · Alignment, indentation, spacing Spelling and grammar Mail merge DATE-04.04.2022 TODAY'S LESSON- All the above NAME OF THE TEACHER-Sourabh Kumar (F-27)

Learning goals / objectives

(Based on revised Bloom's Taxonomy)

Expected behavioral changes of the learner's can be studied under different domains of objectives, as follows:

1. Remembering:

In MS word paragraph is any text which end with a paragraph mark. These are created when we
press the enter key on the keyboard. We can see the hidden characters such as the paragraph
mark by using show/hide button in the upper right-hand corner of paragraph group.

2. Understanding:

- Understand the various formatting features for paragraph and fonts to create presentable documents that suits the definite purpose.
- Create grammatically correct documents without any spelling error uinderstanding the spelling and grammar feature of MS Word.
- Understand how some document can be used for sending to different mailing address using mail merge feature of MS Word.





mail merge is useful when we want to
send the same document to many
people.
USING MAIL MERGE 1. Open the word document that you
want to use as the letter,
greetings, notice etc. the
information in the document
should not change from letter to
letter.
Click on the mailings tab.
Click on the start mail merge
button.
4. Click on letters.
Nothing happens on screen, but
word sets up for a mail merge
5. Click on select recipients.
Click on to identify the type of recipient list you plan to use. The
new address list dialog box
appears, displaying the area
where you can enter the
information. Click on each area
and type the appropriate
information for each person.
7. To enter the information for
another person, click on new
entry. Reapeat steps 7 and 8 for
each person to be added to
mailing list.
When you finish creating the address list, click on ok. The save
address list dialog box appears.
9. Click on save button to save the
file.
10. Click on edit recipient list. The Mail
Merge Recipient Window appears.
This area list all the people on
your mailing list. Click on check
boxes to add or remove a person.
11. Click ok.
12. Click on the location where you
want the address to appear in the
letter. Click on address block. The
insert address dialog box appear. 13. Click on format for each recipients'
name and preview it. Click on ok.
14. A merge field representing the
address block, the greeting line
appears in the letter. Click on the
location where you want them to
appear. Click preview result.
15. Word displays a preview of the
merged letter using the
unchanged content information
from address file.





	 16. Click on next record icon to preview the next letter and previous letter icon to preview the previous letter. 17. Click on finish and merge. 18. Click on edit individual documents. The merge to new document dialog box appears. Choose the radio buttonto specify which people from your mailing list, you want to create letters for (All / current / from) 19. Click on ok to create letters. Word opens a new document and creates the personalized letters in the document. 20. Scroll through to see all the pages of your mail merge. 	
 3. What do you mean by al 4. What is indentation? 5. What is a spacing? 6. What is mail merge? Wh 7. Fill in the blanks: a view dis b. We can drag zoom b to zoom out the docu c. Macro function is ava 	y is it used? plays a webpage preview of your document. utton in the to zoom in and drag zo	oom button in





Teaching learning strategies

Content	Concept	Teacher's Role	Student's role
Content	Paragraph	A paragraph is any text that ends with a paragraph mark. These are created when we press the enter key on the key board. The teacher types paragraph in a new word document and show how they are separated from other paragraphs using the enter key from the key board. The horizontal alignment can be changed using these buttons on the paragraph group of the HOME tab. The left side of the paragraph can be indented by using these buttons they will increase or decrease the left indentation of the paragraph by half an inch. The space between each line in a paragraph can be changed using the line spacing button on the HOME tab in the paragraph group. This list shows the most common linespacing values. The line spacing options will	Observes with interest Some students ask questions in between the speech and tends to share their own experience students seem to be elated to see the paragraphs with proper spacing of the lines. Students observe the screen with interest Some of them suggest different formats for the text.
		To customize the line spacing open the paragraph window. To customize the line spacing open the paragraph window. There are three line spacing options- Atleast- set minimum line spacing	 Some of them ask differen question related to selection o text.
		 Exactly- set the line spacing to exact value, if the line spacing is too small for the text, part of the words will disappear. 	
		Multiple- set the line spacing to the multiple of the AT value. Multiple of 1.0's single spacing. 2.0's is double spacing. The mail merge feature is used to produce personalized letter for each person or your mailing list. Performing	



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3. Analyzing:

Analyse different formatting features to have a good understanding of the overall document creation

4. Evaluating:

 Evaluate the formatting features to apply them efficiently for creating good quality presentable documents.

5. Creating:

· Create documents with holistic understanding of the formatting features

Analyze the learner's and context

(The teacher will ask the following questions to test the previous knowledge of learners)

- · What is a paragraph? How can we make a paragraph in our document while typing?
- How can we format a paragraph?
- · How can we create grammatically correct documents in MS Word?

Develop and select teaching materials

- General teaching materials:
 Blackboard, chalk, duster, school text book
- Supporting teaching materials:
 Reference book, desktop computer with projector screen



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LEARNING DESIGN

NAME OF SCHOOL-SUBJECT- Computer Science M C K Vidyapeeth CLASS- IX TEACHING UNIT-Word processing **DURATION-45 minutes** SUB UNIT- Undo, Redo, cut, copy, paste Font formatting Font dialog box DATE- 22.03.2022 TODAY'S LESSON- All the above NAME OF THE TEACHER-

Learning goals / objectives

(Based on revised Bloom's Taxonomy)

Expected behavioral changes of the learner's can be studied under different domains of objectives, as follows:

1. Remembering:

- · Word keeps track of most recent tasks we perform until we exit.
- Tasks such as formatting, deleting can be undone

Sourabh Kumar (F-27)

· Cut, copy, paste are clip board features built into windows. It's a temporary storage location

2. Understanding:

- The windows clipboard can only store one item at a time. Microsoft office has multi-clip board that can store 24 items.
- No matter how many items are there in office clipboard the paste button and the shortcut key responds only to the most recently copied item.
- Items are stored with the copy and cut features and recalled with the paste feature.



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3. Analyzing:

Analyze how to use cut, copy, paste features optimally not to redo the same task again and again.

4. Evaluating:

Evaluate how front formatting feature of MS Word can be helpful to create presentable documents
efficiently.

Creating:

Able to use the formatting and clipboard features to create documents for official purpose

Analyze the learner's and context

(The teacher will ask the following questions to test the previous knowledge of learners)

- Q1. What is cut copy, paste feature of MS Word?
- Q2. What is a clipboard?
- Q3. How can we decorate our documents?
- Q4. What is font formatting?

Develop and select teaching materials

General teaching materials:

School text book, chalk, duster, black board

Specific teaching materials:

Reference book, desktop connected to a projector screen, charts





Teaching learning strategies

Content	Concept	Teacher's Role	Student's role
Undo (CTRL+Z), Redo (CTRL+Y)		The teacher demonstrates through the projector screen the icons for undo / redo. He types some text on the document screen, applies some formatting to it. Now he changes the size of the text(font size) and applies different font colours to different parts of the text. Then he applies undo for one time, the most recently applied formatting disappears, again on application of redo it comes back. Teacher inserts a picture related to the typed text which he selects and copies using copy icon on the home tab. He pastes it two times in different places of the document. "It can be copied as many times as required"	Observes with interest Some students ask questions in between the speech and tends to share their own experience students seem to be elated to see the clones of the same images.
Font formatting		Most options to format the text can be foundon the home tab, in the font group. The teacher selects a part of the typed text to make it a heading He applies BOLD effect to it and increases the font size He italicizes the text to make it look different from heading He also applies different colours to different part of the text as suggested by the students	 One of them ask can it be copied 100 times Students observe the screen with interest Some of them suggest different formats for the text. Some of them ask different question related to selection of text.





	Design for evaluation
01 Wh	at de vou moon by formetting?
QI. WIIE	at do you mean by formatting?
Q2. How	can you make copies of an image ten times?
O2 E:II:-	the blanks with appropriate words
Q3. FIII IF	the blanks with appropriarte words:
i.	is used to add an object to the clip board.
ii.	The mostg recent element copied in get pasted on "Paste " command
iii.	is the shortcut key for cut.
iv.	is the shortcut key for paste.
٧.	changes the size of the selected text.
vi.	changes the selected text to appear darker.
vii.	changes the capitalization of your selected text.
viii.	changes the selected text to appear leaning the letters to the right.
ix.	changes the selected text to have a single line under the text.
	Diagnosis of weaknesses for remedial classes
The teacl	her will determine the weakness of the learners and arrange for remedial classes to bridge any



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	Learı	ning Design
School: MAKHLA HIG Class: 6 Time: 45 Min Date: 30.03.2022 Name of the Teacher: SHOU ROLL NO: F-20	GH SCHOOL	Subject: Computer Studies Unit: Computer memory Subunit: • The concept of computer memory • Types of memory • Cache Memory Today's Lesson: Types of Memory
Learning Object Remembering	After completing • Tell the name	the lesson the students will be able to les of different types of memory nition of different types of memor
Understanding	• Understand	the lesson the students will be able to that there are different types of memory difference between various types of
Applying	Apply the co	the lesson the students will be able to oncept in computer software related areas. Oncept in computer related problem

1



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Analysing	 After completing the lesson the students will be able to Analyse the concept of different types of memory. Analyse the difference between volatile and non volatile memory and other types of memories.
Evaluating	 After completing the lesson the students will be able to Evaluate the concept of different types of memory. Evaluate different types of primary and secondary memory.
Creating	 After completing the lesson the students will be able to Have ideas to make charts to represent the different types of memory. Able to apply this concept in higher Computer related courses.

Analysing Learners and Context

To understand the primary behaviour and previous knowledge of the students the following questions will be asked

- 1. What is memory?
- 2. What is Primary memory?
- 3. What is secondary memory?
- 4. What do you mean by byte?
- 5. What do you mean by bit?

2





Learning Materials

Text Book: Text book of Computer studies. Class 6 WBBSE

Supporting Materials: Chalk, Duster, Black Board, Over head projector

etc

Learning Strategies		
Learning Areas	Related Strategies	
Concept and types of memory	The teacher will use the lecture and demonstration method and also questioning to explain the concept of memory to the students and will also give some examples. The teacher will ask the following question. Q: What are the types of memory? A: The students will tell there are two type of memory, primary memory and secondary memory.	
Primary memory	Here the teacher will explain primary memory to the students	
	Primary memory is often known as the working memory, Primary memory is of two types RAM and ROM, also there are two types of memory one is volatile nad another is non volatile memory. When computer power is turned off volatile memory loses its contents. Non volatile	

3



	memry in contrast does not loose its contents when
	component is turned off.
Design for evalu	ation
1. What is me	mant 7
	e types of memory ?
	nary memory ?
	e types of primary memory ?
	atile and Non volatile memory ?
Weakness and R	emedial Class
cincular classes t	dopting proper (effective) teaching strategies.
chicolar classes c	Reopting proper (effective) teaching strategies.



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2. Developing assessment tools for both online and offline learning:

Sikshanamandira has taken a lot of initiatives to develop adequate skills in trainee teachers for the effective use of Information and Communication Technology (ICT) in the teaching and learning process. In particular, the report focuses on the development of assessment tools for both online and offline learning environments. These efforts have been designed to enhance the overall quality of education at Sikshanamandira and prepare trainee teachers for modern pedagogical demands. However, during the preparation of assessment tools, trainee-teachers are trained to use Bloom's Revised Taxonomy in an effective way to address the cognitive, psychomotor and affective domains of their prospective students.

Sikshanamandira is committed to providing a forward-looking and technology-integrated education experience. In line with this commitment, we have prioritised the development of ICT skills among our trainee teachers to enable them to create effective assessment tools for both online and offline learning. These skills are vital for ensuring a dynamic and engaging learning environment, especially in the context of today's educational landscape.

Key Initiatives:

Curriculum Enhancement: We have updated our teacher training curriculum to incorporate modules that focus on ICT integration. Trainee teachers now receive specialised training in using digital tools and technologies. This is evident in the course code: 133 Integration of Advanced Technology in B.Ed and in the course code: 233 Educational Technology and ICT in M.Ed. programs.

ICT Sessions: Sikshanamandira organises regular ICT sessions conducted by experienced educators and professionals. These sessions cover a range of topics, including digital literacy, the use of educational software, and designing effective assessments.

Integration of LMS: We have adopted a Learning Management System (LMS) that allows trainee teachers to create, distribute, and manage online assessments. This LMS provides a centralised platform for both teachers and students to interact digitally. Apart from this, the institutional Moodle also works for the attainment of the same goal. It is widely used by our professors and trainee-teachers alike.

Digital Assessment Tools: Trainee teachers are now proficient in using a variety of digital assessment tools, including Google Forms, Moodle, and other online platforms. This enables them to create and administer online quizzes, surveys, and assignments effectively.

Blended Learning: We promote a blended learning approach, combining online and offline tools for teaching and assessment. This allows trainee teachers to cater to various learning styles and circumstances.



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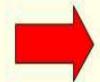
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Professional Development Opportunities: We encourage our trainee teachers to engage in continuous professional development through webinars, seminars, and conferences, where they can stay updated on the latest educational technology trends.

The highlighted segment of our B.Ed. curriculum and some samples of Offline assessment tools are given below.

VI.

Course - 126



Development of Evaluative Tool – (Achievement Test) (EPC -3) - 40 (20+20) Marks

Preparation of Evaluative Tool (Achievement Test) in each method subject and submission of the report to the concerned method teachers in the institution. The report is to be prepared according to the following headings-

- a) Concept of Achievement Test
- b) Selection of Topic (Unit)
- c) Identification of learning Course Learning Outcome
- d) Preparation of blue print
- e) Development of questions
- f) Preparation of answer keys
- g) Application of Achievement Test
- h) Evaluation of answer scripts
- Reporting the Results

The development of an evaluative tool highlighted in the curriculum of B.Ed.



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Developing assessment tools for offline learning

RAMAKRISHNA MISSION SIKSHANAMANDIR.	Α
- STATE IN STATE OF THE STATE O	
TOPIC- Achievement Yest Breparation For	Method-2 (Phy Sci
COURSE CODE - 126	
NAME - JAYASISH PAUL	
INAIVIE - STITISTEST STICE	
B.ED SEMESTER - 2nd	Parigin
REGISTRATION NO 012-1121-2101-14	
COLLEGE ROLL NO F46	
Source in the second se	
session - 2020 – 2022	E-310x
SESSION - 2020 - 2022	
session - 2020-2022	



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(1) anning courriculum and instruction and Achievement test can be defined as "in t that describes what a person has brondike and Hagen. The maximum Time - 45 minutes The maximum marks - 25 marks Creparation of a design for the test: bject:- Physical Science - Definition and distinctions Letrecon Physical and Chemical Changes nical Change or Chemical Reactions in a cremical change



Weig	htage to Objectives:-			(2)	
SL. No.	Objectives	Marks		Percentage (%)	
1.	Knoroledge	11 44		The second secon	
2.	Monderstanding	8		32	
3.	Application	4		16	
4.	Skill	2		8	
Total		25		100	
	htage to Content:-		19		
SL·No.	Content	Marks		Percentage (1)	
1.	Suleunit-i	I I		4	
2.	Subunit-11	14		56	
3.	Subunit - III	3		12	
4.	Subunit - iv	7	28		
Total		25 100		00	
Weigh	stage to form of questi	ions:-			
SL·No.	Form of questions	No of Questions	Marks	Percentage(1)	
1.	lery Short Answer type	7	7	28	
	Short Answer type	7	14	56	
	Essay (Long Answer) type		4	16	
4	etal	15	25	100	

[&]quot;Education is the manifestation of the perfection already in man."

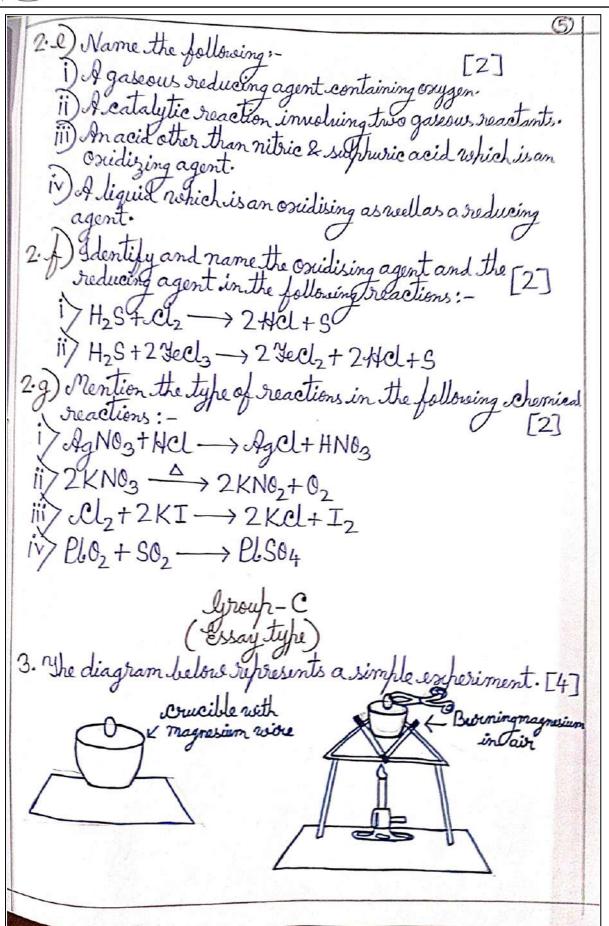


Objectives	Kno	eledge		Mno	erstar	ding	Ah	hlication			Skill		T + 1	Pope
Objectives Sub-units	(E)	Short (S)	Short (V)	(E)	Shart (S)	Vug Start	(E)	Short (s)	Very Short	Essay (E)	Short (S)	Short(v)	Total	-age
Subunit			1.e (1)										1	4
Suluvit-ii		2.s (2)	1.0,1.1 (1) (1) 1.0,1.d (1) (1)		2(2) 1(2) 2(2)								14	50
Suburit-iii		2·d (2)	1.4										3	12
Sukunit-Iv			1.9				3 (4)				2·c (2)		7	2
Total		4	7		8		4				2		25	
Executage (i)		16	28		32		16				8	. syê-		10



	TILDI	(4)
AND DESCRIPTION OF THE PERSON NAMED IN	Test Paper	
The second second	Subject:-Physical Science	F2
A STATE OF THE PERSON	Eull Marks:-25 Time:-45min	utes
	Stroup-A (Very Shortanseer type)	
-	1. a) Define Thermal dissociation with an example. [1] 1. b) What is Synthesis? Give an example. [1]	
-	1. b) What is Synthesis? Spine an escample. [1]	
-	100) regione tostune catalyse with an estample. [1]	
	[1.d) What is an Inhibitor? I give escample. [1]	
	1. 2) Give two escamples where both physical and chemical changes are involved.	
1	Dool +: 11 + 1 . 10 +	
	1. D What is Electrochemical Reaction? [1]	
	1.9) Mention any two conditions of Burning. [1]	
	Ghortansmer type)	
	2. a) Describe wielly the electronic concept of oxidate and reduction.	-
	and reduction.]
	2. D) Do you think that it is essential for oxidation and reduction to occur side by side in a chemical reaction - Eschlain. [2]	
	and reduction to occur side by side in a chemical	
	(2. C) Schematically represent the balance of o and co	
Charles And	2. C) Schematically represent the balance of 02 and co in the atmosphere. [2]	
	2.d) Define Endothermic and Escothermic reactions with escamples.	
2010 CARR	escamples.	
1550 (350m)		-







(6)
i) What is the aim of the esperiment? ii) Mention the property involved in this experiment. jii) Sieve reasons:- a) Mhe lid is raised occasionally when heating the crucible containing the pre-veeighed pieces of magnesium reire.
D. A change in mass on burning of the substance is, magnesium is seen to have taken place in the above experiment. iv) Write the chemical reaction taking place in the above above experiment.



	0
Preparation of Answer Key	
Scorung Koul Markin (da)	
· Very Short Answer Type questions	
Question No.	
Of hiswell	Naxas
1.a) Stisareaction in ropich-a substance disse into two or more simpler substances on appli	rciatus
Trace seisa reversible hogolia.	calion
NH4-CL(s) theat NH3+HCL(g)1	
1. D) Synthesis is a special case of combination	- An
Teaction in which a compound is form	red 1
degethe combination of its constituent	'
2 Mg+O2 -> 2 MgO	
1. C A catalyst which increases the rate of	a ,
chemical reaction is called a positive	
ceatalyst. E.g. Mnoz (Manganese diosii	al)
2 KClo3 Sinos > 2 KCl + 302	
1.d) Inhibitor is a substance which acts as	
catalytic poison and retards the efficiency	ich ,
a catalyst & g. Arsenic Oxide is an inval	itar
which inhibits important enzyme based chemical reactions in the human body	-
chemical reactions on the numan body	.
1.2) Two examples where both physical and	
homical changes are involved are:-	
Desction of heat on zine hydroside	
ii) Sublimation of ammonium chloride	
1.1) A che mical reaction which proceeds with absorption of electrical energy is called a electrochemical reaction.	ا ولم
absorption of electrical reaction.	
elle coco and a second	

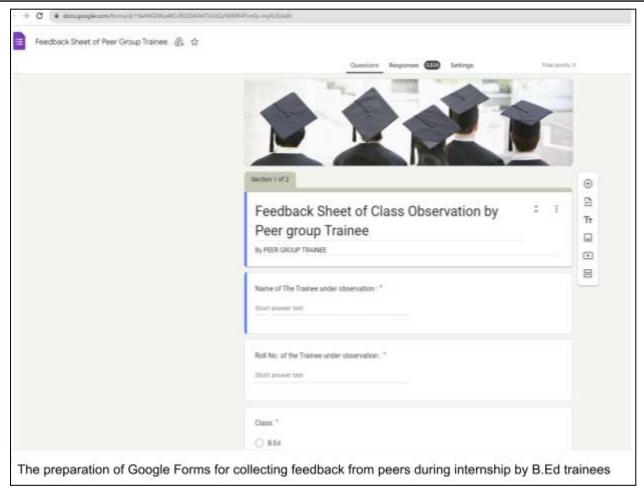


	2H2O relectric 211 10		(2)
(I)	2H20 electric 2H2 + 02 (acidyad) convert (cathods) (Anode) vo conditions of Burning are:-	and a second property of the second property	1
ice	embustion which is a supporter,	eb	,
	rsseer type questions		
Question No.		Wurder	
2.a)	In the electronic concepts oxidation is defined as a process in which an atom or an ion loses electrons.	1	
1	Zn -> Zn2++2e- Reduction is defined as a process in robich anatomor ion gains electrons. Lu2++2e> Lu	I	2
	yes, Because in a chemical reaction, refere one substance is oxidised, the other substance must necessarily be reduced. The electrons lost during oxidation are simultaneously gained during reduction. Ton -> 2n2++2e-	2	2
h a	In $\rightarrow 2n^{2+}+2e^{-}$ Lu ²⁺ +2e ⁻ \rightarrow Lu yhus, the rall fractions cannot occur in isolation, they occur simultaneously is $\mathcal{L}u^{2+}+2n 2n^{2+}+\mathcal{L}u$ yhus, oxidation and reductional ways go side by side.		
2.0)	The balance of 02 and CO2 in the		
	The balance of O2 and CO2 in the through it mosphere is maintained through oxygen-Carlion cycle, which is represented as follows:-		The second secon



		9
Photosynthesis in Oxygen-Carlson Photosynthesis in Oxygen-Carlson Plants animal, Oxygen Protosynthesis in Oxygen Perpiration in Plants a animal, Oxygen Oxygen Perpiration in Plants a animal, Oxygen Oxygen Perpiration in Plants a mimal, Oxygen Oxygen Perpiration in Protosynthesis Oxygen Perpiration in Protosynthesis Oxygen Perpiration in Protosynthesis Oxygen Perpiration in Protosynthesis Perpiration in Protosynthesis Perpiration in Protosynthesis Perpiration in Protosynthesis Perpiration in Perpiratio	2	2
Schematic representation of the balance of Ozand Cozin the atmosphere		×
exolution of heat energy is called an exothermic reaction. + D Tindicates - exothermic reaction. No + 3Ho ===================================	1	2
A chemical reaction which proceeds with absorption of heat energy is called an endothermic reaction. ΔT indicates- endothermic reaction. Cacoz $\stackrel{\triangle}{=}$ $CaO + Coz - \Delta T$		
2.2) i Carbon monoside (CO) or Sulphur dioxide (SO) ii) Haber's process N2+3H2 NH3+D iii) Hydrochloric acid (Acl) iv) Hydrogen peroxide (H2O2)	1/2 1/2 1/2 1/2 1/2	2
2. f) i) Ll2 (Chlorino) - Oscidising agent H2S (Hydrogen Sulphide) - Reducing agent ii) Yell3 (Yevric Chloride) - Oscidising agent H2S (Hydrogen Sulphide) - Reducing agent	1.	2







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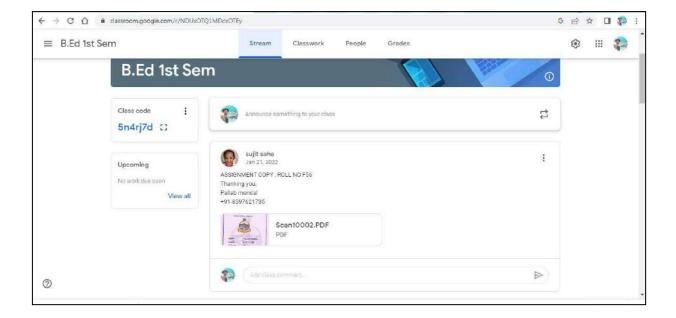
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3. Effective use of social media/learning apps/adaptive devices for learning

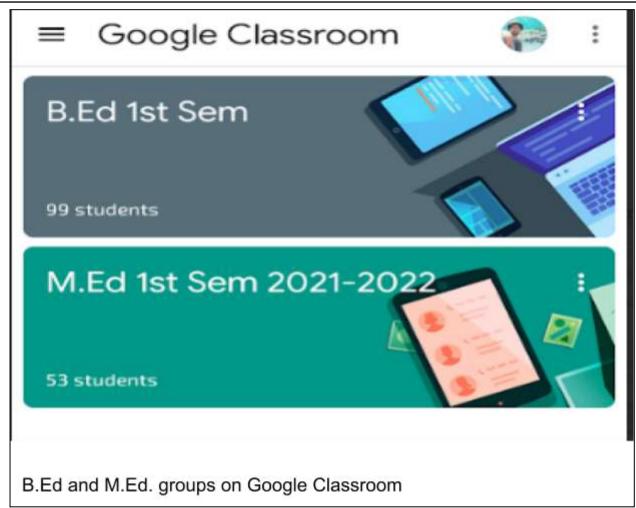
Trainee teachers pursuing a Bachelor of Education (B.Ed.) and Master of Education (M.Ed.) at Sikshanamandira are equipped with the essential skills to make effective use of social media, learning apps, and adaptive devices for enhanced learning experiences. They are trained to harness the power of social media platforms as a tool for professional development, collaboration, and engaging students in meaningful educational discourse. These future educators are well-versed in selecting and integrating learning apps that align with pedagogical goals, ensuring an interactive and dynamic classroom environment. Additionally, they understand the importance of adaptive devices and assistive technology to cater to diverse learning needs, promoting inclusive education. Through this holistic approach, the trainee teachers of Sikshanamandira are well-prepared to utilise the full spectrum of digital resources to create engaging, accessible, and student-centred learning experiences in the modern educational landscape. Besides, we have separate whatsapp groups for B.Ed and M.Ed programs where various official notices, study materials and useful study links are shared with our trainee-teachers of B.Ed and M.Ed.

Some documentary records are given below to support the claim.

Use of Google Classroom



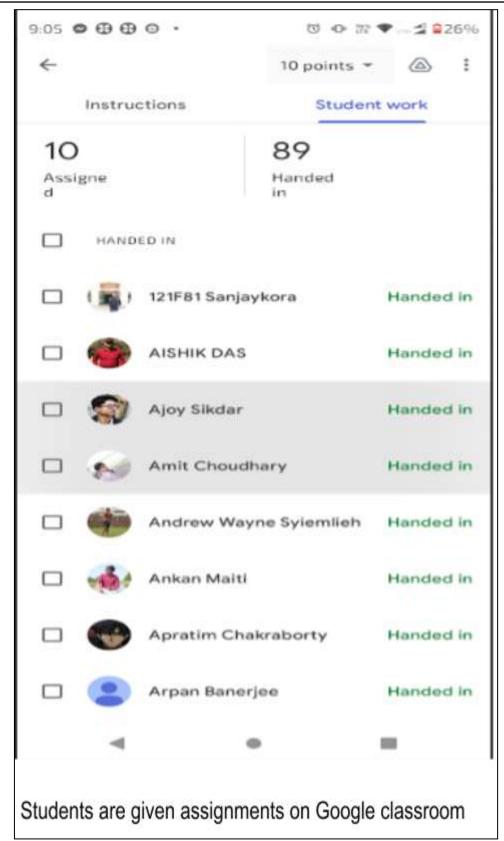






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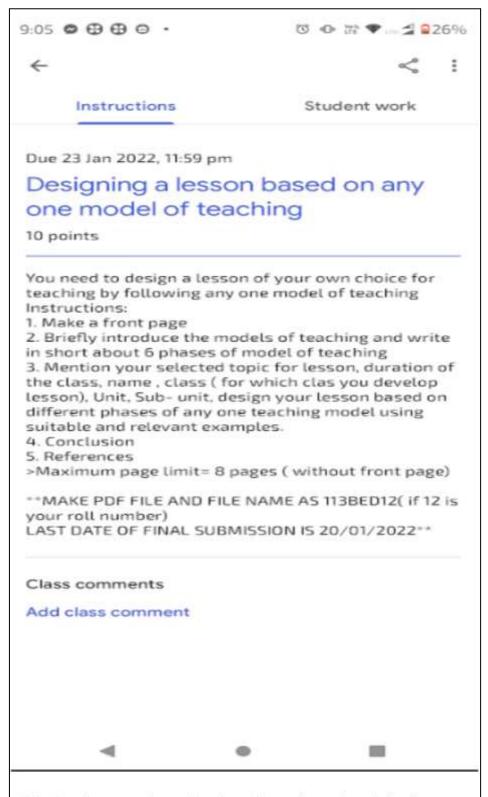


"Education is the manifestation of the perfection already in man."



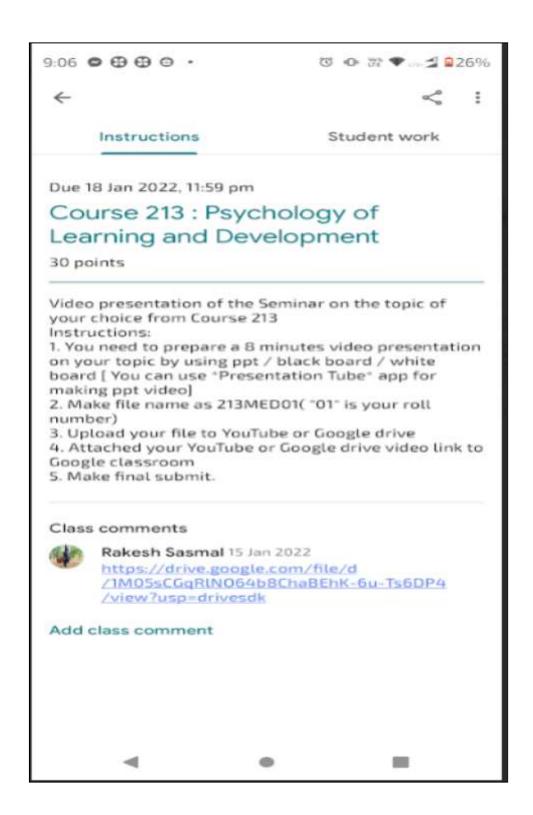
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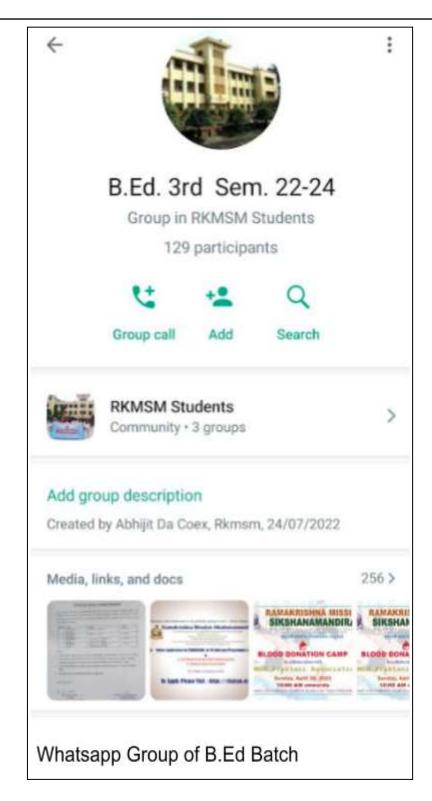


Students are given instructions to upload their assignment on Google Classroom

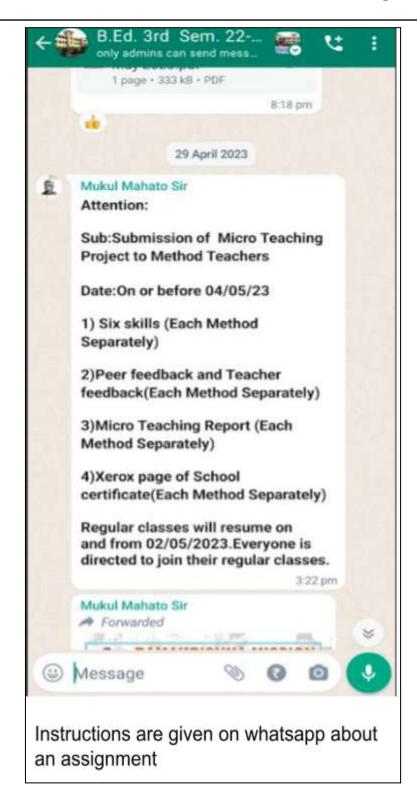




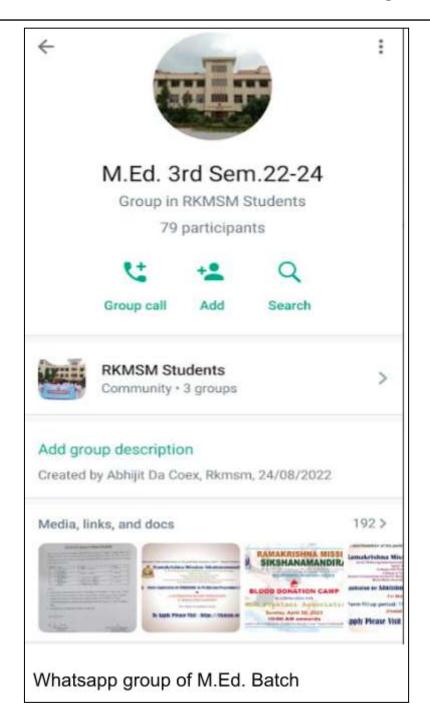




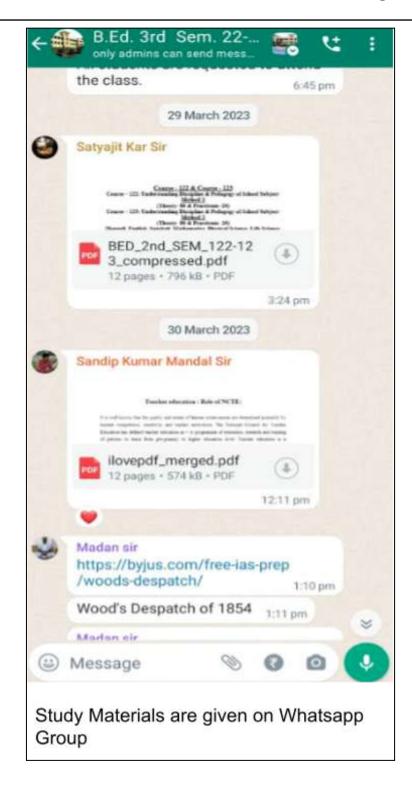














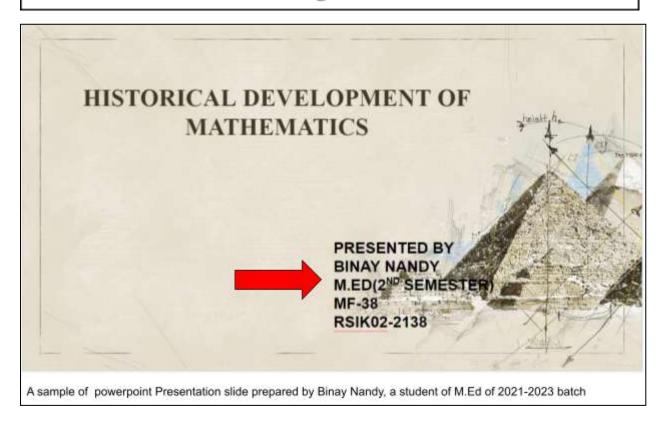
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4. Identifying and selecting/ developing online learning resources

Trainee-teachers enrolled in B.Ed. and M.Ed. programs at Sikshanamandira are equipped with the necessary skills to effectively utilise Information and Communication Technology (ICT) in the teaching and learning process. These programs prioritise the development of digital competencies among aspiring educators, enabling them to identify and select, or even create, online learning resources that enhance the quality of education. Through a combination of theoretical knowledge and hands-on experience, trainee-teachers become proficient in leveraging digital tools, educational software, and online platforms to create engaging and interactive learning environments for their students. This proficiency in ICT not only empowers educators to adapt to the evolving landscape of education but also ensures that Sikshanamandira's graduates are well-prepared to foster innovation and facilitate a technologically enriched educational experience for their future students.

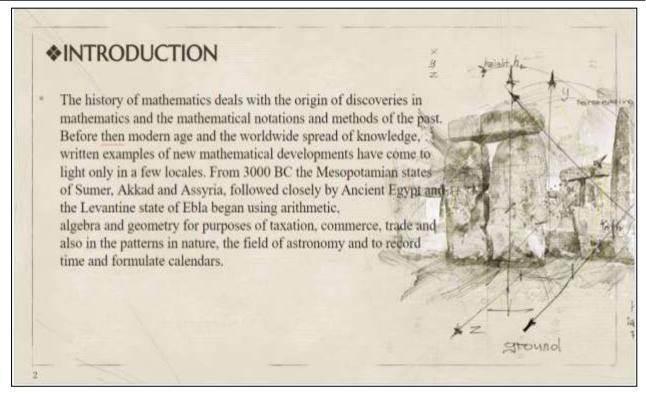
Creating MS-PPT



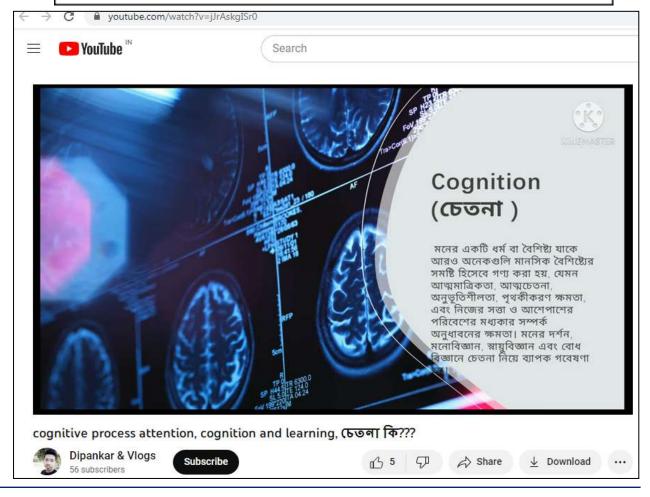


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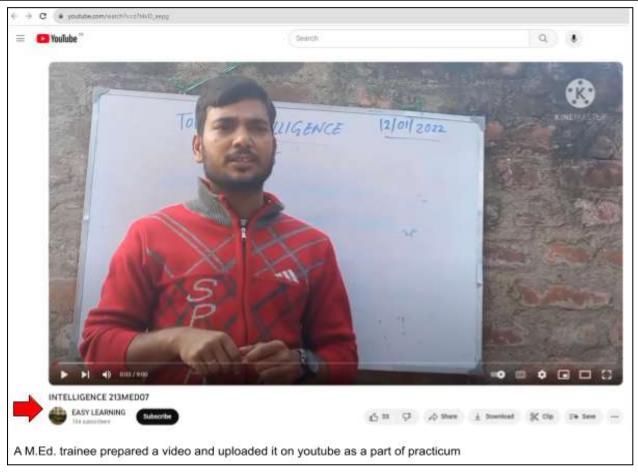
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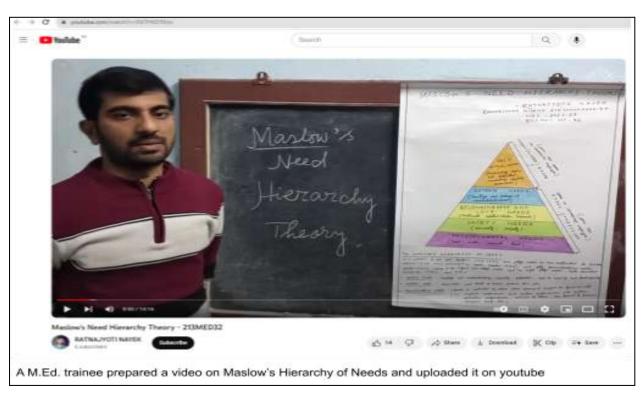


Creating YouTube channel











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B.Ed. Curriculum 2022-23

	Communication Technology (ICT) in School Education in India; IT@ School Project; Challenges of Integration of ICT in School. d) Media Crowd & Media Culture; High Tech & High Touch.
Unit II Educational Resources & ICT	a) MS Word, MS Excel & MS Power Point, Introduction to Internet, e-mail, Search Engines, Info-Savvy Skills; Digital Age Skills, safe surfing mode. b) Internet resources for different disciplines like natural sciences, social sciences, Humanities and Mathematics. c) General Introduction to e-learning, Mobile-learning, distance learning, On-line learning. d) Virtual University, Wikipedia, Massive Open Online Courses (MOOCs); Social networking e) Models of Communication system
Unit III ICT Integrated Education	a) ICT Integrated Education, Student management through automation software, e-guidance & counseling, e-modules, e-learning Resources. b) ICT based Co-operative and Collaborative Learning – concept features and educational application c) Communication Tools - Mobile, e-mail, chat Online Conferencing Blog, Wiki, Internet forum, News Groups
Unit IV Hands on Knowledge of ICT Hardware & Software	a) Computer, Server, Projection & Operating systems b) Software, Websites, Virtual Servers & Cloud technology c) Recording, Audio & Video editing, Pedagogic collaboration d) Set up of digital classrooms and lab e) Promoting inclusivity through

Suggested Reading:

- Benkler, Y. (2006). The wealth of networks: How social production transforms markets and freedom. Yale University Press.
- Douglas Comer(2007) The Internet Book: Everything You Need to Know about Computer Networking and How the Internet Works, Prentice Hall,
- iii. DSERT Karnataka. (2012). Position paper on ICT mediation in education. DSERT.

Course Code: 133 Integration of Advanced Technology highlighting ICT usage in B.Ed. Curriculum

M.Ed. Curriculum 2022-23

learning (Offline, Online, Synchronous, Asynchronous, Blended learning, mobile learning)

Use of ICT in Evaluation, Administration and Research: E portfolios, ICT for Research - Online Repositories and Online Libraries, Online and Offline assessment tools (Online survey tools or test generators) - Concept and Development.

Application of Computers in Education: CAL CAL, CBT, CML, Concept, Process of preparing ODLM, Concept of e learning, Approaches to e learning (Offline, Online, Synchronous, Asynchronous, Blended learning, mobile learning)

Emerging Trends in e-learning: Social learning (concept, use of web 2.0 tools for learning, social networking sites, blogs, chats, video conferencing, discussion forum), Open Education Resources (Creative Common, Massive Open Online Courses; Concept and application).

g. E Inclusion - Concept of E Inclusion, Application of Assistive technology in E learning, Quality of E Learning - Measuring quality of system: Information, System, Service, User Satisfaction and Net Benefits (D&M IS Success Model, 2003), Ethical Issues for E Learner and E Teacher - Teaching, Learning and Research

Course Code: 233- Educational Technology and ICT highlighting the use of ICT driven curriculum in M.Ed. curriculum