



# Google Classroom for Teachers

PART – II PUTTING UP QUESTIONS, ASSIGNMENTS AND QUIZ ASSIGNMENTS

पूर्वोत्तर-पर्वतीय विश्वविद्यालय

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NEHU, SHILLONG – 793 022 (MEGHALAYA)



## What we need for

### 1. Teachers

- 1.1 Data/internet connection,
- 1.2 Laptop/Desktop PC/Mobile Phone,
- 1.3 A Gmail account **to create online classes**,
- 1.4 Google Classroom - **a site where classes are to be created**, and
- 1.5 Google classroom app - optional but it can be used as an alternative tool (to be used with smartphones).

### 2. Students

- 2.1 Data/internet connection,
- 2.2 Laptop/Desktop PC/Mobile Phone,
- 2.3 A Gmail account *to join the online classes*,
- 2.4 Google Classroom - *a site where online classes can be accessed*, and
- 2.5 Google classroom app (for accessing classes using smartphones).

It may be convenient for teachers to use the site <https://classroom.google.com> while creating classwork on a laptop/desktop PC for various reasons however a smartphone can also be used with limited features.

# Google Classroom for Teachers

For non-live online teaching



- W** We are trying to explore the features of Google Classroom (GC) through pictorial slides. This can be further extended by ourselves once we acquire the basic knowledge of the GC.
  
- O** One can follow the subsequent slides or go over the video tutorials given in the reference section for Google Classroom *as per convenience*.
  
- P** Please note that there are more videos available on [YouTube](#) on how to use Google Classroom which one can refer to, anytime, anywhere, while creating online classes.

# Google Classroom for Teachers

## Part – II Preparation of Questions, Assignments and Assignment Quizzes



In **Part – I**, we **covered** the creation of **Classwork** and sharing the same with students using a **Class code** for a particular subject/paper.

Here in Part – II of the series, we shall cover putting up

1. Questions,
2. Assignments, and/or
3. Quiz assignments

to a whole class, a group of students or a particular student.

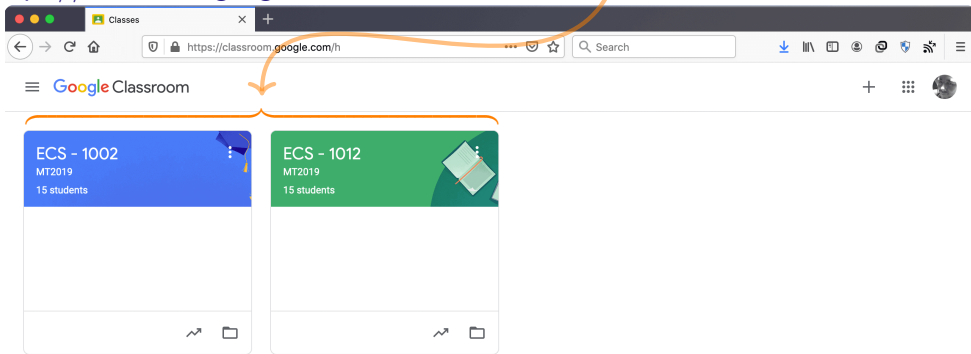
We shall also see briefly how marking can be done.

# Google Classroom for Teachers

## Part – II Preparation of Questions, Assignments and Quiz Assignments



**Step - 1** Using our Gmail account, we shall sign-in to our account in Google Classroom at <https://classroom.google.com>. We see the **classes created** so far in the account.





**Step - 2** After clicking on a subject/paper in Step - 1, say ECS - 1012, we are now in the desired subject with its announcement page, which is also *the default page of the subject/paper under the Stream*, opened. We then **click** on the **Classwork**.

The screenshot shows the Google Classroom interface for the subject 'ECS - 1012 MT2019'. The browser address bar shows the URL 'https://classroom.google.com/c/NTc0MTEzNTE5NTTha'. The navigation bar includes 'Stream', 'Classwork', 'People', and 'Grades'. The 'Stream' tab is active, and the 'Classwork' tab is highlighted with a blue box. The main content area features a green header with the subject name 'ECS - 1012 MT2019' and class code 'mekhadr'. Below the header is an 'Announcement area!' containing a post by Joyprakash Lairenlakpam dated Mar 30 (Edited Apr 1) with the text 'Welcome to the e-platform of ECS - 1012 Advanced Digital Signal Processing Laboratory' and 'Raise your queries anytime please.'.

# Google Classroom for Teachers

## Part – II Preparation of Questions, Assignments and Quiz Assignments



**Step - 3** On the Classwork page, we **click** the **Create** button to *ask questions*. After that, again **click** on the **Question** option.

The screenshot shows the Google Classroom interface for a class named 'ECS - 1012 MT2019'. The 'Classwork' tab is selected. A '+ Create' button is highlighted with a green circle, and a purple arrow points to the 'Question' option in the dropdown menu. The 'Question' option is also highlighted with a purple circle. The interface shows a list of classwork items: 'Experiment # 01', 'Experiment # 02', and 'Experiment # 03'. The 'Experiment # 02' item is expanded, showing a 'Study of Aliasing Effect' assignment. The 'Experiment # 03' item is partially visible at the bottom.

# Google Classroom for Teachers

## Part – II Preparation of Questions, Assignments and Quiz Assignments



**Step - 4** A question can be set in two ways here - Short answer (*default*) and Multiple choice. We may also provide [instructions/clues](#) to the question. In addition, a *relevant material* such as diagram, weblink, video etc. may be provided **or** create the same using Google tools. This is for **Short answer**(*default*) type question.

The screenshot shows the Google Classroom question creation interface. A dropdown menu is open, showing two options: "Short answer" (selected) and "Multiple choice". The interface includes fields for "Question", "Instructions (optional)", "Add", and "Create". On the right, there are settings for "For" (ECS - 1012 ...), "All students", "Grade category" (No category), "Points" (100), "Due" (No due date), "Topic" (No topic), and checkboxes for "Students can reply to each other" (checked) and "Students can edit answer" (unchecked). Colored arrows point from the text above to the "Add" button, "Create" button, "Instructions (optional)" field, and the "Short answer" option in the dropdown menu. A red box highlights the "Add" and "Create" buttons, with a note: "These two more features here may be left untouched or check/uncheck accordingly to our choice."



# Google Classroom for Teachers

## Part – II Preparation of Questions, Assignments and Quiz Assignments



**Step - 4** A question can be set in two ways here - Short answer (*default*) and Multiple choice. We may also provide [instructions/clues](#) to the question. In addition, a *relevant material* such as diagram, weblink, video etc. may be provided **or** create the same using Google tools. This is for **Short answer**(*default*) type question.

The screenshot shows the Google Classroom question creation interface. A red arrow points from the text 'This is for Short answer(default) type question.' to the 'Short answer' option in the question type dropdown menu. A purple arrow points from the text 'We may also provide instructions/clues to the question.' to the 'Instructions (optional)' field. A green arrow points from the text 'relevant material such as diagram, weblink, video etc. may be provided or create the same using Google tools.' to the 'Add' button. A yellow box highlights the 'Add' and 'Create' buttons with the text: 'These two more features here may be left untouched or check/uncheck accordingly to our choice.' The interface includes fields for 'For' (ECS - 1012 ...), 'All students', 'Grade category' (No category), 'Points' (100), 'Due' (No due date), and 'Topic' (No topic). There are also checkboxes for 'Students can reply to each other' (checked) and 'Students can edit answer' (unchecked).

# Google Classroom for Teachers

## Part – II Preparation of Questions, Assignments and Quiz Assignments



**Step - 5** After the **short question** is typed in, few more settings like send out the question to **all** students (*default*), assign **points/marks** (*default value is 100*), **due date** and a time setting (*default - No due date*), and placing the question under any **Topic** (*default - No topic*) may be modified before we finally **ask the question**.

The screenshot shows the Google Classroom interface for creating a question. The question text is "What is the Nyquist Frequency?". The settings panel on the right includes:

- For:** ECS - 1012 ... (dropdown), All students (dropdown)
- Grade category:** No category (dropdown), Points: 100 (dropdown)
- Due:** No due date (dropdown)
- Topic:** No topic (dropdown)
- Students can reply to each other
- Students can edit answer

Buttons at the bottom of the settings panel include "Add" and "Create". A green arrow points from the text "send out the question to all students" to the "All students" dropdown. A pink arrow points from "assign points/marks" to the "Points: 100" dropdown. An orange arrow points from "due date" to the "No due date" dropdown. A blue arrow points from "placing the question under any Topic" to the "No topic" dropdown. A red arrow points from "ask the question" to the "Ask" button. A "Not saved" indicator is visible above the "Ask" button.

# Google Classroom for Teachers

## Part – II Preparation of Questions, Assignments and Quiz Assignments



**Step - 5** While asking a question, it's **not necessary** that we *ask the question to the whole class*, that is, to **all students**. However, at times, we might like to ask the question to **few students** or to **a particular student**. Either way, a proper choice may be checked accordingly to suit our purpose.

The screenshot shows the Google Classroom interface for creating a question. The question text is "What is the Nyquist Frequency?". The "For" dropdown is set to "Short answer". The "Instructions (optional)" field contains the text "This question is a part of the Pre-requisite topic of this paper." The "Add" and "Create" buttons are visible at the bottom left. On the right side, there is a list of selection options with checkboxes:

- All students
- A Sophayo
- ECS - 10
- Albert Suja
- Grade cate
- No cate
- Bryan B Kshand
- No due
- Darilangi Lyngdoh
- Doreen Nongrum
- No topic
- Gary Bryan Than...
- Studer
- Ila Syiemlieh

Arrows from the text above point to these options: a green arrow points to "All students", a blue arrow points to "Short answer", a purple arrow points to "No due", and another purple arrow points to "No topic".



**Step - 6** Let's now look at the **Multiple Choice** question which also has similar features like that of Short answer type question. Select the Multiple choice from there as shown below. Then, type the first option and then press the ENTER/RETURN (↵) keypad on the keyboard to go to the **next Option**. Type in all options this way.

The screenshot displays the Google Classroom interface for creating a question. The browser address bar shows the URL: <https://classroom.google.com/w/NTc0MTEzNTE5NTa/t/all>. The page title is "Classwork for ECS - 1012 MT20".

The main content area shows a question titled "Sine wave is a" with the instruction: "This question is part of the pre-requisite studies." The question type is set to "Multiple choice".

On the right side, there are settings for the question:

- For: ECS - 1012 ... (dropdown), All students (dropdown)
- Grade category: No category (dropdown), Points: 100 (dropdown)
- Due: No due date (dropdown)
- Topic: No topic (dropdown)
- Students can see class summary

At the bottom, there are buttons for "Add" and "Create".



**Step - 7** In the **Multiple Choice** question, we can re-arrange the options after typing them as per our choice. For example, we can **move up** the *third option in the second place*, or **move down** the second option in the third place. This can be done using the drag and drop mouse function (the *mouse holding location/icon*).

Classroom for ECS - 1012 MT20 X

https://classroom.google.com/w/NTc0MTEzNTE5NTa/t/all

Question

Sine wave is a

Multiple choice

Instructions (optional)  
This question is part of the pre-requisite studies.

(a) Periodic signal.

(b) Deterministic signal.

(c) Aperiodic signal.

(d) Both (a) and (c) above.

Add option

For  
ECS - 1012 ... All students

Grade category  
No category

Points  
100

Due  
No due date

Topic  
No topic

Students can see class summary



**Step - 8** Multiple Choice question is now ready to be shared with **all** students *default*.

However, the sharing of the question can also be done with few students or a particular student as per our choice. We can also ▶ assign points/marks, ▶ assign due date and time, and ▶ place the question under any Topic created.

Classwork for ECS - 1012 MT20 X

https://classroom.google.com/w/NTc0MTEzNTE5NTha/t/all

Question

Sine wave is a

Multiple choice

Instructions (optional)  
This question is part of the pre-requisite studies.

(a) Periodic signal.

(b) Aperiodic signal.

(c) Deterministic signal.

(d) Both (a) and (b) above.

Add option

For  
ECS - 1012 ... All students

Grade category  
No category

Points  
100

Due  
No due date

Topic  
No topic

Students can see class summary



**Step - 9** By checking and unchecking the **check-boxes** in the below snapshot, we can make a choice whether we can ask the question to **all students**, **few** or a **particular student**. After all these settings are made, we can now **press** the **ask button** to send out the question. *Under ask button, we also have schedule, save draft etc.*

The screenshot shows the Google Classroom interface for creating a question. The question title is "Sine wave is a" and the type is "Multiple choice". The instructions state "This question is part of the pre-requisite studies." The options are:

- (a) Periodic signal.
- (b) Aperiodic signal.
- (c) Deterministic signal.
- (d) Both (a) and (b) above.
- Add option

The student selection panel on the right shows the following students and their selection status:

- All students (checked)
- A Sophayo (unchecked)
- Albert Suja (unchecked)
- Arkyson Rani (unchecked)
- Bryan B Kshand (checked)
- Darilangi Lyngdoh (unchecked)
- Doreen Nongrum (unchecked)
- Gary Bryan Than... (checked)
- Ila Syiemlieh (unchecked)

Arrows from the text above point to the "All students" checkbox, the "Ask" button, and the "Gary Bryan Than..." checkbox.



**Step - 10** Even after the question is asked, the initial settings/choices may be edited by clicking on the vertical dots. Once we are in **edit mode**, we can even include/exclude any students based on our choice. We can also change the due date, select a Topic etc. Lastly, we can even *delete* a question for some reasons :-)

The screenshot shows the Google Classroom interface for a class named 'ECS - 1012 MT2019'. The 'Classwork' tab is selected. A question titled 'What is the Nyquist Frequency?' is shown in edit mode, indicated by a blue vertical ellipsis icon on the right side of the question card. A blue arrow points from the text above to this icon. Below the question, there are sections for 'Experiment # 01' and 'Experiment # 02', each with a vertical ellipsis icon for editing. The interface includes a 'Create' button, 'Google Calendar' and 'Class Drive folder' options, and a sidebar with 'All topics' and 'Experiment # 01', 'Experiment # 02', and 'Experiment # 03'.





**Step - 11** For creating a Quiz assignment, we click on the **Quiz assignment** option under the Create button of the Classwork page.

The screenshot shows the Google Classroom interface for a class named 'ECS - 1012 MT2019'. The 'Classwork' tab is selected. A 'Create' button is visible, and a dropdown menu is open, showing options: Assignment, Quiz assignment (highlighted with an orange box), Question, Material, Reuse post, and Topic. An orange arrow points from the 'Quiz assignment' option to the 'Quiz assignment' text in the main content area. The main content area shows a list of assignments, including 'Sine wave is a' and 'Experiment # 01'.



**Step - 12** We are now in Quiz Assignment page. **Title** of the Quiz assignment and its **instructions**, if any, may be provided in the specified locations. Thereafter, we **click** on the **Blank Quiz** Google forms.

Assignment Saved Assign

Title  
Quiz # 01 Basics of Multirate Systems

Instructions (optional)  
There shall be True/False and Multiple Choice Questions each carrying 5 marks.

Add + Create

**Blank Quiz**  
Google Forms

For  
ECS - 1012 ... All students

Grade category Points  
No category 100

Due  
No due date

Topic  
No topic

Rubric  
+ Rubric



**Step - 13** We have here **Quiz title**, its description, and the **quiz question**. We can also provide **answer key** of the quiz question. On this Google Quiz forms, there are various types of question one can choose from.

The screenshot displays the Google Forms editor for a 'Blank Quiz'. The main form area includes a title 'Blank Quiz', a description field, and a question field 'Untitled Question'. Below the question field, there are radio buttons for 'Option 1' and 'Add option or add "Other"'. At the bottom of the question field, there is a checked checkbox for 'Answer key' with '(0 points)'. A dropdown menu is open on the right, showing various question types: Short answer, Paragraph, Multiple choice (selected), Checkboxes, Dropdown, File upload, Linear scale, Multiple choice grid, Checkbox grid, and Date. The browser address bar shows 'https://docs.google.com/forms/d/1mT-SrtYGB4K1cV10C...'. The page title is 'Blank Quiz' and it says 'All changes saved in Drive'.



**Step - 14** After filling up the quiz question, assigning points/marks and providing answer key, we also finally have to **tick** on the correct answer so that marks obtained by the student is automatically updated in the Google forms.

The screenshot shows a Google Forms quiz editor interface. At the top, there are browser tabs for 'Classwork for ECS - 1012 MT2' and two instances of 'Quiz # 01 Basics of Multirate S...'. The address bar shows the URL 'https://docs.google.com/forms/d/1ApJ1L6ob-gYUlcRdO...'. The main content area is titled 'Choose correct answers:' and contains a question: 'There is no requirement to process the various signals at different rates commensurate with the corresponding bandwidths of the signals.' The question is worth 5 points. Below the question, there are two radio button options: '(a) True' and '(b) False'. The '(b) False' option is selected, indicated by a green circle and a green checkmark. Below the options, there are sections for 'Feedback for correct answers' and 'Feedback for incorrect answers'. The 'Feedback for correct answers' section contains the text 'Yes, "False" is the correct answer'. The 'Feedback for incorrect answers' section contains the text 'Correct answer is (b). Explanation: In telecommunication systems that transmit and receive different types of signals, there is a requirement to process the various signals at different rates commensurate with the corresponding bandwidths of the signals.' A 'Done' button is located at the bottom right of the question editor.



**Step - 15** We then close Google form and go back to *Quiz Assignment page*. After making other settings like points, due date, recipients etc., we at last press the **Assign** button which is *on the top right corner of the page* and confirm again.

The screenshot shows the Google Classroom assignment creation interface. At the top right, there is a 'Saved' status and an 'Assign' button, which is circled with a blue '1'. Below this, the assignment details are visible: Title 'Quiz # 01 Basics of Multirate Systems', Instructions 'There shall be True/False and Multiple Choice Questions each carrying 5 marks.', and various settings like 'For' (ECS - 1012 ...), 'Grade category' (No category), 'Points' (10), 'Due' (Thu, Apr 9, 11:59 PM), and 'Topic' (No topic). A confirmation dialog box is open in the center, asking 'Assign "Quiz # 01 Basics of Multirate Systems"?'. The dialog box contains the text 'Students will see the assignment in their streams immediately' and has 'Cancel' and 'Assign' buttons. The 'Assign' button in the dialog is circled with a blue '2'. At the bottom of the page, there are navigation icons and a footer with the text 'NEHU, SHILLONG – 793 022 (MEGHALAYA) GOOGLE CLASSROOM FOR TEACHERS 05.04.2020 19 / 35'.



**Step - 16** All questions - Question, Assignment and Quiz Assignment appear under various Topics of the **Classwork** page.

The screenshot shows the Google Classroom interface for a course titled 'ECS - 1012 MT2019'. The 'Classwork' tab is selected and highlighted with an orange box. The main content area displays a list of assignments and quizzes under the topic 'Course pre-requisites'. The items listed are:

- Quiz # 01 rv.1 Basics of Multirate Systems (Due Tomorrow, 11:59 PM)
- What is the different between the Nyqu... (Due Apr 15)
- Pre-Requisites to ECS - 1012 (Edited Apr 5)
- What is the Nyquist Frequency? (Due Apr 10, 11:59 PM)
- Sine wave is a (Due Apr 10, 9:00 AM)

Below the 'Course pre-requisites' section, the 'Experiment # 01' section is partially visible.

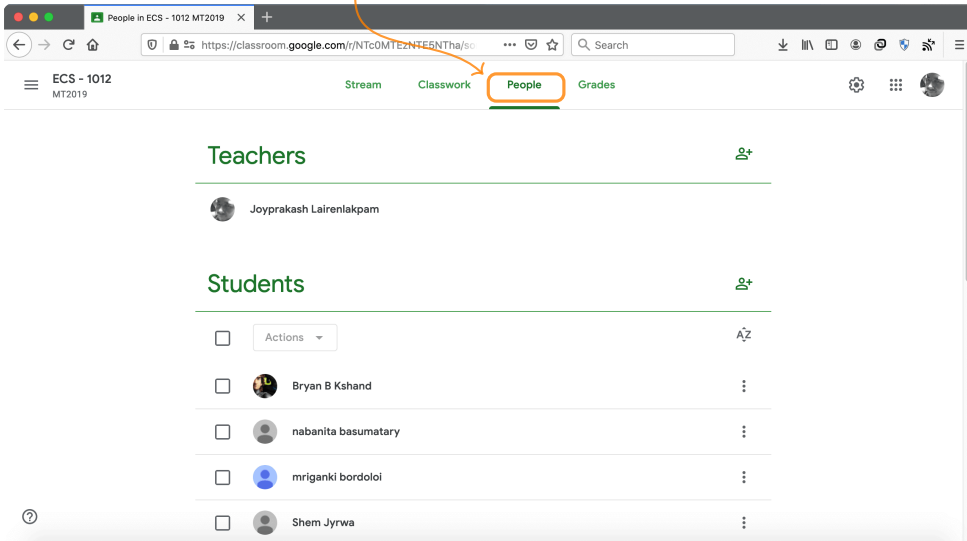


**Step - 16** We can **click on any of the question** to check the status of the reply from student(s).

The screenshot shows the Google Classroom interface for a course named 'ECS - 1012 MT2019'. The 'Classwork' tab is selected. A quiz assignment titled 'Quiz # 01 rv.1 Basics of Multirate Systems' is displayed. The quiz was posted at 9:04 PM and has 2 students. A note indicates it is an updated version of an earlier quiz. The status shows 1 student has turned in the quiz and 1 student has been assigned. Below the quiz card, there is a 'View assignment' link. The interface also shows a sidebar with 'All topics' and a list of experiments, and a bottom navigation bar with various icons.



**Step - 17** We can also **click** on the **People** page to see who have joined the class.



The screenshot shows the Google Classroom interface for a class named 'ECS - 1012 MT2019'. The 'People' tab is selected and highlighted with an orange box. Below the navigation tabs, the page is divided into two sections: 'Teachers' and 'Students'. The 'Teachers' section lists one teacher, Joyprakash Lairenlakpam. The 'Students' section lists five students: Bryan B Kshand, nabanita basumatary, mriganki bordoloi, and Shem Jyrwa. Each student entry includes a checkbox, a profile picture, the name, and a vertical ellipsis menu icon. An 'Actions' dropdown menu is visible at the top of the student list. The browser address bar shows the URL: https://classroom.google.com/r/NTc0MTEZNTF5NTHa/sc.





**Step - 17** Say, an *unknown person* has joined the class and we want to remove that person from the class. We can do that by **checking the check-box** on the left of the **unknown person** and **press the Remove option** under the **Action menu**.

The screenshot shows the Google Classroom interface for a class named 'ECS - 1012 MT2019'. The 'People' tab is selected, displaying a list of users. The 'Students' section is expanded, and the 'Actions' menu for a student is open, highlighting the 'Remove' option. Colored arrows point from the text in Step 17 to the corresponding UI elements: a blue arrow points to the check-box, a red arrow points to the 'Remove' option, and an orange arrow points to the 'Action menu'.

Category	Name	Check-box	Actions
Teachers	Joyprakash Lairentakpam	<input type="checkbox"/>	⋮
Students	[Unknown]	<input checked="" type="checkbox"/>	Remove
	[Unknown]	<input type="checkbox"/>	⋮
	mriganki bordoloi	<input type="checkbox"/>	⋮



### Step - 17 And then **confirm** the **remove action**.

The screenshot shows the Google Classroom interface for a class named 'ECS - 1012 MT2019'. The 'People' tab is selected, showing a list of students. A dialog box is open over the student 'nabanita basumatary', asking for confirmation to remove them. The 'Remove' button in the dialog is highlighted with a red circle, and a red arrow points from the text 'confirm the remove action' to it.

Teachers

Joyprakash Lairenlakpam

Students

Remove student?

Are you sure you want to remove this student from the class?

- nabanita basumatary (nabanitabasumatari@gmail.com)

Cancel Remove

Actions

Bryan B Kshand

nabanita basumatary

mriganki bordoloi

Shem Jyrwa



### Step - 18 We can also check the Grades scored by each student on **Grade** page.

Sort by last name	Overall grade	Tomorrow Quiz # 01 rv.1 out of 10	Apr 15 What is the out of 5	Apr 10 Sine wave is a out of 5	Apr 10 What is the out of 5
Class average	75%				3.75
Bryan B Kshand	No grade	Not assigned		Not assigned	Not assigned
nabanita basumatary	No grade	Not assigned		Not assigned	Not assigned
mriganki bordoloi	No grade	Not assigned		Not assigned	Not assigned
Shem Jyrwa	No grade	Not assigned		Not assigned	Not assigned
Riskybert Laloo	No grade	Not assigned		Not assigned	Not assigned
Darilangi Lyngdoh	50%	___/10			2.5



**Step - 19** We can also **click** on the Class menu on the top left corner and check which student has taken question/assignment/quiz assignment.

ECS - 1012 MT2019		Stream	Classwork	People	Grades
Sort by last name	Overall grade	Tomorrow Quiz # 01 rv.1 out of 10	Apr 15 What is the	Apr 10 Sine wave is a	Apr 10 What is the
			out of 5	out of 5	out of 5
Class average	75%				3.75
Bryan B Kshand	No grade	Not assigned		Not assigned	Not assigned
nabanita basumatary	No grade	Not assigned		Not assigned	Not assigned
mriganki bordoloi	No grade	Not assigned		Not assigned	Not assigned
Shem Jyrwa	No grade	Not assigned		Not assigned	Not assigned
Riskybert Laloo	No grade	Not assigned		Not assigned	Not assigned
Darilangi Lyngdoh	50%	___/10			2.5

# Google Classroom for Teachers

## Part – II Preparation of Questions, Assignments and Quiz Assignments



**Step - 20** Once we are on the Class menu, we **click** on the **To-do**.

The screenshot shows the Google Classroom interface. On the left sidebar, the 'To-do' tab is highlighted with an orange box. An orange arrow points from the 'To-do' tab to the 'To-do' column in the main content area. The main content area displays a table of assignments for the 'ECS - 1012 gradebook' class.

	Stream	Classwork	People	Grades	
all grade	Tomorrow Quiz # 01 rv.1 out of 10	Apr 15 What is the out of 5	Apr 10 Sine wave is a out of 5	Apr 10 What is the out of 5	
				3.75	
grade	Not assigned		Not assigned	Not assigned	
grade	Not assigned		Not assigned	Not assigned	
grade	Not assigned		Not assigned	Not assigned	
grade	Not assigned		Not assigned	Not assigned	
grade	Not assigned		Not assigned	Not assigned	
grade	Not assigned		Not assigned	Not assigned	
	___/10			2.5	



**Step - 21** Then, we can **click** on any of the question to see/check the answers given by the students. Let's say, we **click** on the **second question**.

The screenshot shows a web browser window with the URL <https://classroom.google.com/ta/not-reviewed/all>. The page title is "To-do". Below the navigation bar, there are two tabs: "To review" and "Reviewed". Under the "To review" tab, there is a section titled "All classes" with a dropdown arrow. Below this, there is a section titled "Work in progress" containing a table of assignments.

<b>What is the different between the Nyquist frequency and the Nyquist...</b> ECS - 1012 MT2019 – Due Apr 15	1 Turned in	14 Assigned	⋮	
<b>What is the Nyquist Frequency?</b> ECS - 1012 MT2019 – Due Apr 10, 11:59 PM	0 Turned in	0 Assigned	2 Graded	⋮
<b>Sine wave is a</b> ECS - 1012 MT2019 – Due Apr 10, 9:00 AM	0 Turned in	3 Assigned	⋮	
<b>Quiz # 01 rv.1 Basics of Multirate Systems</b> ECS - 1012 MT2019 – Due Tomorrow, 11:59 PM	1 Turned in	1 Assigned	⋮	





**Step - 22** Student can also put a query on the question/answer for any reason and the same can be, for example, checked by **clicking** on the student itself.

The screenshot shows a Google Classroom interface. At the top, a browser window displays the URL <https://classroom.google.com/c/NTc0MTEzNTc1E5NTha/s/>. The page title is "What is the Nyquist Frequency?". Below the title, there are tabs for "Question" and "Student answers". The "Student answers" tab is active, showing a list of students and their responses. An orange arrow points from the text "checked by clicking on the student itself" to the name "Darilangi Lyngdoh" in the student list.

Student	Points
<input type="checkbox"/> All students	
Sort by status	
<input type="checkbox"/> Graded	
<input type="checkbox"/> Darilangi Lyngdoh "Ohh ok sir thank you"	2.5
<input type="checkbox"/> Gary Bryan Thangkhiew "Thank you for the answer."	5

**What is the Nyquist Frequency?**

0 Turned in | 0 Assigned | 2 Graded

All

**Darilangi Lyngdoh** Apr 6

For a periodic waveform, in order to recover all the Fourier components it is necessary to use a sampling rate atleast twice the highest waveform frequency. Nyquist Frequency also called nyquist limit is the highest frequency that can be coded at a given sampling rate in order to be able to fully reconstruct the signal. Nyquist Frequency is the maximum frequency beyond which aliasing will occur

1 reply

**Gary Bryan Thangkhiew** Apr 5

It is half of the sampling rate of a discrete signal processing system.

1 reply



**Step - 22** Student can also put a query on the question/answer for any reason and the same can be, for example, checked by **clicking** on the student itself.

The screenshot shows a Google Classroom interface for a course titled "ECS - 1012 MT2019". The question is "What is the Nyquist Frequency?". The student "Darilangi Lyngdoh" has answered with a score of 2.5/5. The answer text is: "For a periodic waveform, in order to recover all the Fourier components it is necessary to use a sampling rate atleast twice the highest waveform frequency. Nyquist Frequency also called nyquist limit is the highest frequency that can be coded at a given sampling rate in order to be able to fully reconstruct the signal. Nyquist Frequency is the maximum frequency beyond which aliasing will occur." Below the answer, there is a query: "For demonstration purpose only!". The interface also shows a list of students on the left, with "Darilangi Lyngdoh" selected. The bottom of the screen shows navigation icons and the text "2 private comments" with a comment from "Joyprakash Lairenlakpam" stating "Nyquist frequency is half the sampling frequency."

Student	Score
Darilangi Lyngdoh "Ohh ok sir thank you"	2.5
Gary Bryan Thangkiew "Thank you for the answer."	5





**Step - 13** We can also have a look at the Quiz Assignment by clicking on the quiz question under To-do from the Class menu.

The screenshot displays the Google Classroom interface for a class named "ECS - 1012 MT2019". The "Student work" tab is active, showing a quiz assignment titled "Quiz # 01 rv.1 Basics of Multirate Systems". The quiz is worth 10 points and has 1 student turned in and 1 student assigned. The student list on the left shows Darilangi Lyngdoh (Turned in) and Doreen Nongrum (Assigned). The main content area shows a preview of the quiz question and a list of students with their status: Darilangi Lyngdoh (Turned in) and Doreen Nongrum (Assigned). The URL at the bottom of the browser window is [https://docs.google.com/forms/dj/e/1FAIpQLSdLxDbY\\_Hbr9mLv9qllnA5CFH5e-F0lIFvOSsNwcU-TM02LJq/viewform?authuser=0](https://docs.google.com/forms/dj/e/1FAIpQLSdLxDbY_Hbr9mLv9qllnA5CFH5e-F0lIFvOSsNwcU-TM02LJq/viewform?authuser=0).



**Step - 23** Below snapshot is a sample Google quiz forms which we set earlier and asked our students.

The screenshot shows a Google Forms interface for a quiz. The title is "Quiz # 01 Basics of Multirate Systems" and the subtitle is "Quiz # 01 on pre-requisite topics". A red asterisk indicates that the question is required. The first question is a true/false question: "There is no requirement to process the various signals at different rates commensurate with the corresponding bandwidths of the signals." with 5 points. The second question is a multiple-choice question: "What is the process of converting a signal from a given rate to a different rate?" with 5 points. The options are Sampling, Normalizing, Sampling rate conversion, and None of the above.

Quiz # 01 Basics of Multirate Systems

Quiz # 01 on pre-requisite topics

\* Required

There is no requirement to process the various signals at different rates commensurate with the corresponding bandwidths of the signals. \* 5 points

(a) True

(b) False

What is the process of converting a signal from a given rate to a different rate? \* 5 points

Sampling

Normalizing

Sampling rate conversion

None of the above



**Step - 23** After submitting the answer, we can also view the score by clicking on the **view score button**.

The screenshot shows a web browser window displaying a Google Forms quiz result. The browser's address bar shows the URL: <https://docs.google.com/forms/u/0/d/e/1FAIpQLSdLxD8y>. The main content area of the form is a white box with a purple border. At the top of this box, it says "Quiz # 01 Basics of Multirate Systems". Below that, it says "Your response has been recorded." There is a purple button labeled "View score" and a blue link labeled "Submit another response". At the bottom of the white box, there is a small disclaimer: "This content is neither created nor endorsed by Google. Report Abuse - Terms of Service - Privacy Policy". Below the white box, the text "Google Forms" is displayed in a light gray font. The browser's navigation bar at the top includes back, forward, and refresh buttons, as well as a search bar.



**Step - 23** The score page of the Quiz Assignment is appeared depending on our selections/choices made while setting up the Google forms.








The screenshot shows a web browser displaying a Google Forms quiz result page. The browser's address bar shows the URL: [https://docs.google.com/forms/d/e/1FAIpQLSdLxD8y\\_Hb...](https://docs.google.com/forms/d/e/1FAIpQLSdLxD8y_Hb...). The page title is "Quiz # 01 Basics of Multirate Systems". Below the title, it indicates "Total points 10/10" and "Quiz # 01 on pre-requisite topics".

The first question is: "There is no requirement to process the various signals at different rates commensurate with the corresponding bandwidths of the signals." It is worth 5/5 points. The options are (a) True and (b) False. Option (b) False is selected and marked as correct with a green checkmark.

The feedback for this question is: "Yes, 'False' is the correct answer".

The second question is: "What is the process of converting a signal from a given rate to a different rate?" It is worth 5/5 points.

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*Thank You!*