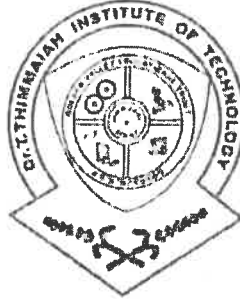


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# Dr. T. THIMMAIAH INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University, Belgaum)

OORGAUM, K.G.F. - 563 120.



## Lab Internal Assessment Book

This is to certify that Mr. / Ms. DHANUSH.S.K.  
bearing USN. No. 16V19CV005 has satisfactorily completed  
the course of Lab internal assessment for 4<sup>th</sup> Semester B.E./ M.Tech,  
Degree in CIVIL Branch / Specialization for the academic  
year 2021 for the Subject GEOLOGY LAB and Code 18CV1A7

For Departmental Use Only :

Sl. No.	IA	Max Marks	Marks obtained				Signature of Faculty	Signature of Student
			Part A (10)	Part B (20)	VIVA (10)	Total Marks		
	I	40	07	19	06	32		D.S.K.
	II							D.S.K.
Final Average Marks Obtained						$\frac{06}{10}$		D.S.K.

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Signature of HOD  
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LAB INTERNALS  
SUB: GEOLOGY LAB

Date: 17/8/21

⇒ Identification of Minerals:-

① Quartz:-

Sl No.	1	2	3
Form/Habit	Crystalline	Cryptocrystalline	Amorphous.
Colour	Colourless, grey, rosy, milky white, purple or violet	colour bands, red, yellow or brown	milky white
Streak	white in coloured varieties.		
Luster	Vitreous.		
Cleavage	Generally absent.		
Fracture	conchoidal and even and uneven also common.		
Hardness	7	5.5 to 6.5	
Sp. Gr	2.65 to 2.66		2.2
Diaphanity	<del>Transparent to Translucent</del>		

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Diagnostic features	Pure qtz is colourless, transparent and inclusions may give colour	Tend to occur in groups, regularly banded	In certain varieties, quantity of water molecules.
Name	qtz (colourless), Amethyst (violet), Smoky, Milky, rose and red qtz	chalcedony, Agate (banded layers of colour) Flint, Jasper (dull red yellow)	opal.
Chemical composition	$SiO_2$ .		
Crystal system	Hexagonal crystals are common twinned.		
occurrence	In all types of rocks; Igneous, sedimentary and metamorphic.		
uses.	<p>i) Used in the manufacture of glass, ceramics, silica wool refractory's</p> <p>ii) Abrasive, clear transparent type used as ornamental stone.</p> <p>iii) The piezoelectric character of qtz is used to control the frequency for electrical instruments and flux in metallurgy.</p>	Precious Gem variety.	

→ Feldspar Group.

Form/Habit	Prismatic or tabular.
colour	white or Red.
Streak	white or Pale body colour.
Luster	Vitreous to sub vitreous.
cleavage	2 sets one set better developed and perpendicular.
Fracture	Even to uneven.
Hardness	6 to 6.5.
Sp. Gr	2.56 to 2.58 (Alumin is heavier - 3/37)
Diaphanity	Not opaque translucent
Diagnostic Features	Shows Twinning and polymorphism

Name	ORTHOCLASE
chemical composition	$KAlSi_3O_8$ .
occurrence	common and essential constituent of many Igneous rocks especially Granite.
Crystal system	Monoclinic

  
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uses As a ceramic materials, Opalium glass, facelin and enamel.

→ Identification of rocks:-

(i) Granite.

Colour	Leuco cratu / Mesocratu .
Appearance	Reddish, Greyish, Pinkish, Grayish .
Structure	Mineral joint, compact, dense, massive, hard .
Texture	coarse grained, equigranular, porphyritic .
Major Mineral	Feldspar, quartz
Secondary mineral	Hornblende, biotite, hypersthene, augite, muscovite .
Accessory minerals	Iron, epidote, pyrite .
Name of the rock	Granite
Mode of origin	Igneous as batholiths, stocks, bosses .
Engg uses	Foundation rock, building temples, forts, ornamental stones, building stone, road metal, railway ballasts, in the fact it was used .

(ii) Dolerite :-

Colour	Melanogranite
Appearance	Dark or Greenish
Structure	Very dense, Massive and compact rock.
Texture	Fine grained equigranular.
Major Mineral	Plagioclase, augite.
Secondary mineral	Hypersthene and biotite
Accessory minerals	Iron oxide.
Name of the rock	Dolerite
Mode of origin	As an intrusive rock as dyke rock.
Uses	<del>Basic</del> granites have good foreign exchange, suitable for railway ballast, foundation and ornamental purpose.

*S. Srinivas*  
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→ A bed of sandstone has an outcrop of 600m on a level ground and dips  $35^\circ E$ . Calculate its vertical thickness and True thickness

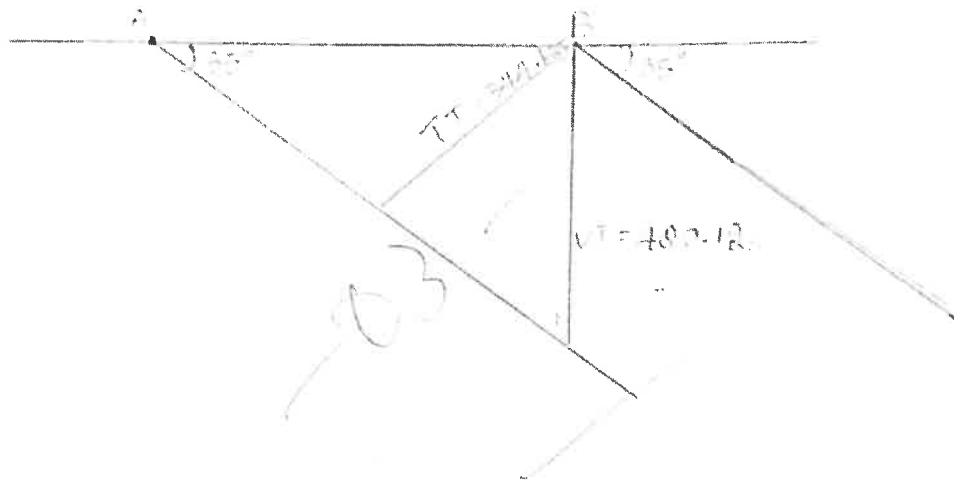
Mathematically:-

$$\begin{aligned} V.T &= w \tan \theta \\ &= 600 \tan 35^\circ \\ &= 420.12 \text{ m} \end{aligned}$$

$$\begin{aligned} T.T &= w \sin \theta \\ &= 600 \sin 35^\circ \\ &= 344.145 \text{ m} \end{aligned}$$

Scale:-

$$1 \text{ cm} = 100 \text{ m}$$



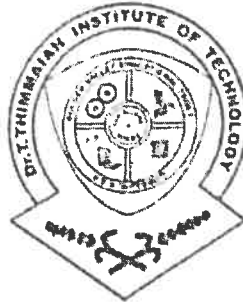


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## Lab Internal Assessment Book

This is to certify that Mr. / Ms. LISHA. S  
bearing USN. No. 16VI18EE005 has satisfactorily completed  
the course of Lab internal assessment for 5<sup>th</sup> Semester B.E./ M.Tech,  
Degree in Electrical Branch / Specialization for the academic  
year 2021 for the Subject DSP LAB and Code 18EEL68

For Departmental Use Only :

Sl. No.	IA	Max Marks	Marks obtained				Signature of Faculty	Signature of Student
			Part A (4)	Part B (4)	VIVA (2)	Total Marks		
02/08/21	I	10	4	4	1	9	[Signature]	[Signature]
	II							
Final Average Marks Obtained		40	R - 15 C - 15 T - 9			39	[Signature]	[Signature]

*[Signature]*  
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*[Signature]*  
Head of the Department  
Dept. of Electrical Engineering  
Dr. T. Thimmaiah Institute of Technology,  
Oorgaam, K. G. F. - 563 120

4, b.

(4). Write a MATLAB program to find the circular convolution of the two given sequences.

(6). Write a MATLAB program to compute N-point DFT of a given sequence  $x_1$  to plot magnitude & phase spectrum.

(4). circular convolution program;

```
b = input('enter the
```

```
dc,
```

```
clear all;
```

```
close all;
```

```
x1 = input('enter the first sequence x1(n)=');
```

```
x2 = input('enter the 2nd / (second) sequence x2(n)=');
```

```
N = max(length(x1), length(x2));
```

```
n = 0 : N-1;
```

```
subplot(2,2,1);
```

```
stem(n, x1);
```

```
title('x1(n)');
```

```
subplot(2,2,2);
```

```
stem(n, x2);
```

```
title('x2(n)');
```

```
y = conv(x1, x2, N);
```

```
subplot(2,2,3);
```

```
stem(n, y);
```

```
title('circular convolution');
```

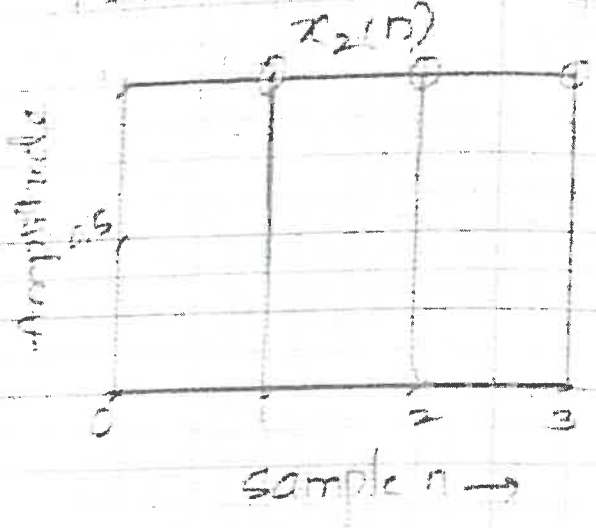
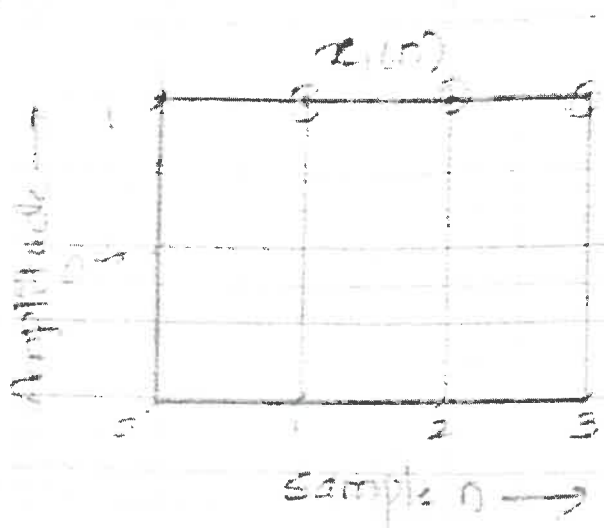
```
axis('circular convolution coefficients  
are y=');
```

  
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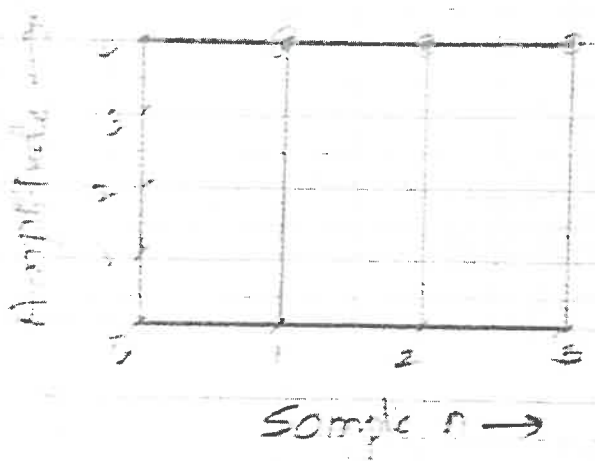
(1)

Scale

x-axis = 2cm = 1 sample n  
 y-axis = 2cm = 0.5 Amplitude

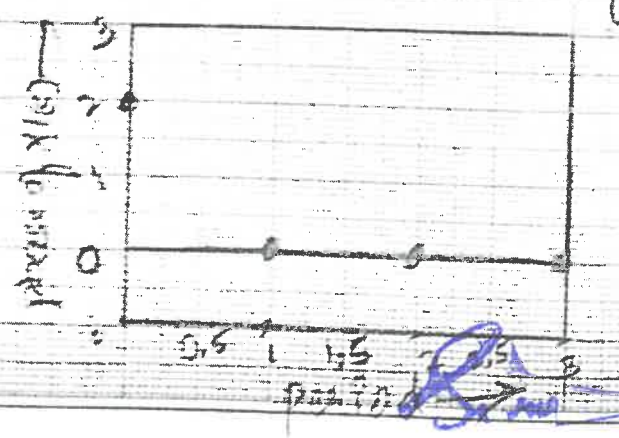
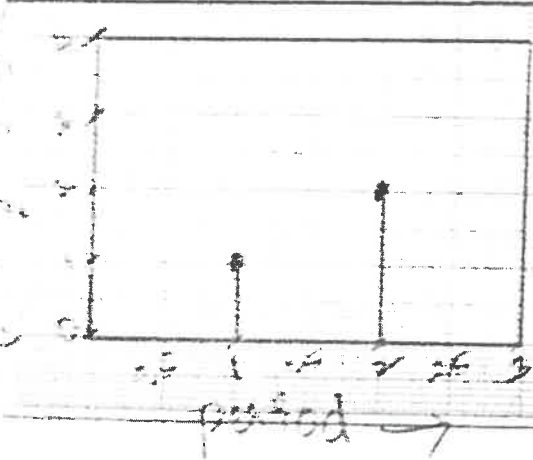


Circular convolution



Scale =  
 x-axis = 5cm = 0.5 period  
 y-axis = 1cm = 1 X(n)  
 magnitude

(2)



disp('y=');

disp(y);

g(p);

$x(n) = [1 \ 1 \ 1 \ 1]$

$z(n) = [1 \ 1 \ 1 \ 1]$

o/p;

circular convolution  
coefficients are

$y = [4 \ 4 \ 4 \ 4]$

(6) N-point DFT

clc

clear all

N = input('enter the number of samples');

~~N~~ = 0:N-1

for k = 0:N-1

w = exp((j \* 2 \* pi \* k \* n) / N);

a = w \* x;

X(k+1) = sum(a);

end

disp(X)

magnitude = abs(X)

phase = angle(X)

subplot(2,1,1)

t = 0:length(X)-1

stem(t, magnitude)

xlabel('period')

ylabel('magnitude of X(k)')

grid on

subplot(2,1,2)

t = 0:length(X)-1



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~~disp(4);  
 disp(5);  
 input;  
 x1(n) = [1 1 1 1]  
 x2(n) = [1 1 1 1]~~

stem(t, phase)

xlabel('period')

ylabel('phase of x(k)');

grid on.

Input :


$$\text{input} = \begin{bmatrix} 6.0000 & -1.9984 + 2.0008i & -2.0000 + 2.0024i \\ -2.0049 - 1.9976i & & \end{bmatrix}$$

$$x = \begin{bmatrix} 6.0000 & -1.9984 + 2.0008i & -2.0000 + 0.0024i \\ -2.0049 - 1.9976i & & \end{bmatrix}$$

N=4

0/P.

$$\begin{array}{cccc}
 n = & 0 & 1 & 2 & 3 \\
 \text{Magnitude} = & 0.0016 & 1.0002 & 2.0004 & 3.0002 \\
 \text{Phase} = & 2.1033 & 0.0008 & 0.0001 & -0.0001
 \end{array}$$

  
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$t = 0 \quad 1 \quad 2 \quad 3$   
 $x = 0 \quad 1 \quad 2 \quad 3$

$$x(k) = \sum_{m=0}^{k-1} e^{-}$$

$$X(r) = \frac{1}{N} \sum_{r=0}^{N-1} e^{-}$$

(1) 11  
12/21

  
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