

Name	:	Registration No.	:
Course Code	:DBM1013	Programme/Section	:
Course Name	: Engineering Mathematics 1	Session	: DIS 2014
Assessment	: TEST #1	Topic	: TRIGONOMETRY & COMPLEX NUMBER
Instruction	: Answer all questions.	Date	:

QUESTION 1

a) Find θ and sketch of the trigonometric functions whereas $0^\circ < \theta < 360^\circ$

i. $\sin \theta = 0.7300$

(4 Marks)

ii. $\sec \theta = -3.584$

(4 Marks)

iii. $\tan \theta = -0.8003$

(4 Marks)

b) Without using calculator, find the value of the following,

$$6 \sin 60^\circ - 4 \cos 90^\circ$$

(3 Marks)

QUESTION 2

a) Given that $Z_1 = 2 + 3i$ and $Z_2 = 4 - 8i$. Express each of the following

In the form of $a + bi$.

i. $Z_1 - Z_2$

(2 marks)

ii. $Z_1 \times Z_2$

(3 marks)

b) Sketch the following complex number using the Argand diagram.

i. $3 - i$

(2 marks)

ii. $-2 - 3i$

(2 marks)

c) Calculate the modulus and the argument for $3 + 3\sqrt{3}i$ and then express the complex number in trigonometric form.

(6 marks)