

Course No:
Course Title: Calculus I
Date: 16/04/2017
No. of Questions: (4)
Time: 1hours
Using Calculator (Yes)

University of Palestine

2nd Midterm Exam
2nd Semester 2016/2017
Total Grade:

Instructor Name: Dr. Hossam ELAQRA
Student No.: _____
Student Name: _____
College Name: Engineering
Dep. / Specialist: _____
Using Dictionary (No)

Question One:**8 marks**

1- Find the slope for these functions at the point (2,3):


A- $Y = X^2 - 3$ (2 marks)

B- $Y = X^3 - 2X^2 + 3X - 1$ (2 marks)

2- Using the definition of limit find the slope of the function:

$Y = 4 - X^2$ (4 marks)

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Question Two:**8 marks**

A particle is moving according to the equation:

$$Y = 2t^2 + 5t - 3 \quad (\text{where } t \text{ is the time}),$$

Find the velocity and the acceleration at $t = 0, 1$ and 2

Question Three:**6 marks**

Find the limit for:

each 2 marks

1-
$$\lim_{X \rightarrow \infty} \sqrt{\frac{(8X^2 - 3)}{2X^2 + X}}$$

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2- $\lim_{X \rightarrow \infty} \frac{2\sqrt{X} + X^{-1}}{3X - 7}$

3- $\lim_{X \rightarrow \infty} \frac{\sqrt{X^2 + 1}}{X + 1}$

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Question Four:**8 marks**

Find the 1st and the 2nd derivatives for the functions:

C- $Y = \frac{X - 2}{X + 3}$

(2 marks)

1- $Y = (2t + 3)^3$

(2 marks)

D- If $y = f(x)$ and $X = t^2 + t$, Find dy/dt
2-

(4 marks)

End of Questions
Good Luck