# KUCHING SARAWAK

#### POLITEKNIK KUCHING SARAWAK

## **Mathematics, Science and Computer Department**



## **INTENSIVE MATHEMATICS (PBM1035) Session December 2017 SELF-EXERCISE 16**

### Instructions

- Answer ALL questions. Write your answers in the spaces provided.
- Show your working. You may use a non-programmable scientific calculator.

Differentiate each function with respect to x.

1. 
$$y = 3x^4$$

2. 
$$y = 7x^3$$

3. 
$$y = 14x^2$$

4. 
$$y = x^4$$

5. 
$$y = \frac{1}{x^2}$$
  
6.  $y = \frac{7}{x}$   
7.  $y = 6x^{-6}$ 

6. 
$$y = \frac{7}{x}$$

7. 
$$v = 6x^{-1}$$

8. 
$$y = \frac{1}{4}x^6$$

9. 
$$y = x^2 + x^3$$

10. 
$$y = 5x - 10x^2$$

11. 
$$y = x^2 - 3x^4$$

12. 
$$y = 9 + 4x2$$

13. 
$$y = 3x + \frac{1}{4}x^2$$

14. 
$$y = 2x^{-1} - x^{-2}$$

12. 
$$y = 3 + 4x^{2}$$
  
13.  $y = 3x + \frac{1}{4}x^{2}$   
14.  $y = 2x^{-1} - x^{-2}$   
15.  $y = 4x^{\frac{1}{2}} + \frac{1}{4}x^{2}$