


<b>Student Code</b>						
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## A. Cluster of Galaxie

Question	Answer	Marks
A.1 (1.0 pt.)	$U =$	
A.2 (0.5 pt.)	$V_{rc} =$	
A.3 (1.5 pt.)	$K_{ave} =$  $V_{rms} =$	
A.4 (1.7 pt.)	$\gamma =$	
A.5 (0.5 pt.)	$M_{dm} =$	

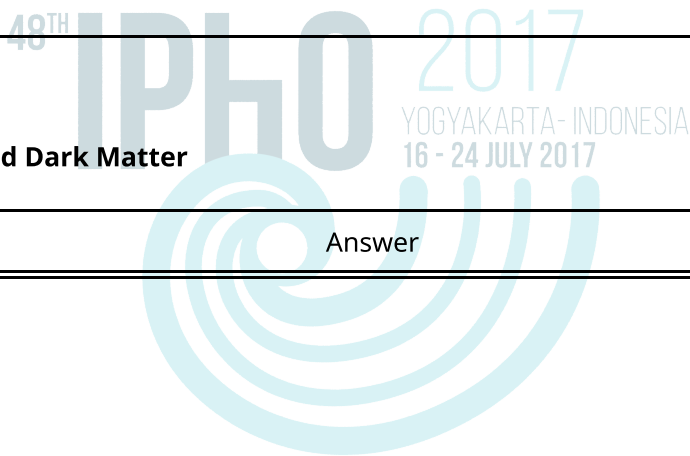
**B. Dark Matter in Galaxy**

Question	Answer	Marks
<p>B.1 (0.8 pt.)</p>	<p>For <math>r &lt; R_g</math> :  <math>v(r) =</math>                      For <math>r \geq R_g</math> :  <math>v(r) =</math>                      Sketch <math>v(r)</math> for <math>r &lt; R_g</math> and <math>r \geq R_g</math> :</p> 	

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<p>B.2 (0.5 pt.)</p>	$m_R = m'(R_g) =$	
<p>B.3 (1.5 pt.)</p>	<p>For <math>r &lt; R_g</math> :</p> $\rho(r) =$  <p>For <math>r \geq R_g</math> :</p> $\rho(r) =$	



**C. Interstellar Gas and Dark Matter**

Question	Answer	Marks
<p>C.1 (0.5 pt.)</p>	$\frac{dP}{dr} =$	
<p>C.2 (0.5 pt.)</p>	$m'(r) =$	
<p>C.3 (1.0 pt.)</p>	$\rho dm(r) =$	

----- DO NOT WRITE BELOW -----

SECTION	SCORE
A	
B	
C	
<b>TOTAL</b>	

