



Summary Answer Sheet

Student Code

Theory
Question II
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Question	Answer	Maximum Marks				
II.1.	$E_G = -\frac{3GM^2}{5R}$	1.0				
II.2.	$R_{wd} = \frac{\hbar^2 \pi^3}{6Gm_e 4^{2/3}} \left(\frac{3}{\pi}\right)^{7/3} \frac{2N_e^{5/3}}{M^2}$	2.0				
II.3.	$R_{wd} = 2.28 \times 10^4 \text{ km}$	1.5				
II.4.	$r_{sep} = 2.13 \times 10^{-12} \text{ m}$	1.0				
II.5.	$v \approx 10^8 \text{ m. s}^{-1}$	1.0				
II.6.	$M_c = \frac{3(5^3 \pi)^{1/2}}{16m_p^2} \left(\frac{\hbar c}{G}\right)^{3/2}$	1.5				
II.7.	<p style="margin: 0;">Tick in appropriate box.</p> <table border="1" style="margin: 5px auto; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Expand</td> <td style="width: 30px; height: 20px;"></td> </tr> <tr> <td style="padding: 2px;">Contract</td> <td style="width: 30px; height: 20px; text-align: center; vertical-align: middle;">√</td> </tr> </table>	Expand		Contract	√	0.5
Expand						
Contract	√					
II.8.	$M_c = 6.8 M_\odot$	1.5				