IPhO 2018
Lisbon, Portugal

A1-1

English (Official)

LIGO-GW150914 (10 points)

Part A: Newtonian (conservative) orbits (3.0 points)

A.1 (1.0 pt)

$n =$

$\alpha =$

A.2 (1.0 pt)

$A(\mu, \Omega, L) =$

A.3 (1.0 pt)

$\beta =$

Part B: Introducing relativistic dissipation (7.0 points)

B.1 (1.0 pt)

$k =$

$a_1 =$ $a_2 =$ $a_3 =$

$b_1 =$ $b_2 =$ $b_3 =$

$c_{12} =$ $c_{13} =$ $c_{23} =$

$c_{21} =$ $c_{22} =$ $c_{23} =$

$c_{31} =$ $c_{32} =$ $c_{33} =$

B.2 (1.0 pt)

$\xi =$

B.3 (1.0 pt)

$M_c =$

B.4 (2.0 pt)

$p =$

B.5 (1.0 pt)

$M_c \simeq$ $M \simeq$

B.6 (1.0 pt)

$L \simeq$ $\frac{R_\odot}{R_{max}} \simeq$ $\frac{v_{col}}{c} \simeq$