PH 101
Mid-Semester Examination
Indian Institute of Technology Guwahati
Date: 22/09/2017
Time: 120 minutes
Maximum Marks: 30

$\dfrac{27}{30}$

Solution- Sheet

Your NAME: MUKUL RANJAN
Your ROLL NUMBER: 170108024

Part-I : Each from Q.1 to Q.20 carries 1 mark

Put the correct option (i.e. *a, b, c* or *d*) in the box against each Question:

1. C   2. A   3. D   4. B   5. B

6. B   7. B   8. A   9. B   10. A

11. C   12. D   13. C   14. B   15. B

16. B   17. A   18. C   19. B   20. B

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Part-II

1. (a)

$$T = \frac{Mg}{4}\ N$$

③

1. (b)

$$I = \begin{bmatrix} 10 & 0 & 0 \\ 0 & 6 & -4 \\ 0 & -4 & 6 \end{bmatrix}$$

②

2.

$$l = \left(\frac{Mv_0^2}{K + bMg}\right)^{1/2}$$

$$= \left(\sqrt{\frac{M}{K + bMg}}\right) v_0$$

⑤