



UP201: Introductory Physics III
IISc Bangalore
Semester I, 2017–2018

PROBLEM SET 1, FINISH BY: AUG. 23, 2017

Reading: SJ, Chapter 20.

1/1. (C) Conceptual ideas:

- (a) SJ-20-Q1[1]
- (b) SJ-20-Q5[3]
- (c) SJ-20-Q6[8]
- (d) SJ-20-Q8[10]
- (e) SJ-20-Q9[13]
- (f) SJ-20-Q10[12]

1/2. (C/T) Problems:

- (a) SJ-20-P2[2]
- (b) SJ-20-P4[6]
- (c) SJ-20-P7[3]
- (d) SJ-20-P15[15]
- (e) SJ-20-P17[19]
- (f) SJ-20-P19[21]
- (g) SJ-20-P24[26]
- (h) SJ-20-P26[28]
- (i) SJ-20-P31[35]
- (j) SJ-20-P35[41]
- (k) SJ-20-P40[44]
- (l) SJ-20-P42[46]
- (m) SJ-20-P56[62]

1/3. (C/T) Ideal gas: Use first law of thermodynamics to derive the specific heat of n moles of an ideal gas at

- (a) at constant volume
- (b) at constant pressure