

## Answers to the Review problems for Chapters 24-26

24-R1: (a) 584 V ; (b) 235.8 J/m<sup>3</sup>; (c) 64.6 μC/m<sup>2</sup>; (d) 774 pF

24-R2: Correct E

24-R3: 17

24-R4: Correct E

24-R5:  $C_x=23.4 \mu\text{F}$

25-R1: (a)  $3.19 \times 10^{18}$ ; (b)  $v = 0.107 \text{ mm/s}$ ; (c)  $P=6.18 \text{ mW}$

25-R2: 3.17 cm

25-R3: Correct C

25-R4:  $Q=18.3\text{C}$

25-R5: (a)  $2\Omega$ ; (b)  $V_{ab}=6\text{V}$ ; (c)  $P=18 \text{ W}$

26-R1:  $\mathcal{E}_1 = 18 \text{ V}$ ;  $\mathcal{E}_2 = 7 \text{ V}$ ;  $V_{ba} = -13\text{V}$

26-R2:  $I_1 = 6\text{A}$ ;  $I_2 = 4\text{A}$ ;  $I_3 = 2\text{A}$ ;  $I_4 = 4\text{A}$ ;  $I_5 = 6\text{A}$ ;  $I(\text{battery}) = 10\text{A}$ ;  $R_{eq} = 1.4\Omega$

26-R3: Correct C

26-R4:  $P = 1.54 \text{ W}$

26-R5:  $V_{@t=3s} = 3.28 \text{ V}$