VITHALBHAI PATEL&RAJRATNA P.T. PATEL SCIENCE COLLEGE
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INTERNAL TEST – 2013
B.Sc. (SEMESRET - III)

Date: 04.10.2013 Time: 1.00 pm to 2.30 pm
Day: Friday Total marks:30

Subject: PHYSICAL CHEMISTRY (US03CCHE02)

Q-1.Choose the one alternative that best completes the statement or answers the question. (06)

(i) The second law of thermodynamics say that
(a) energy can be created but not destroyed
(b) energy can be created and destroyed
(c) one usable form of energy can be completely converted into another usable form
(d) one usable form of energy cannot be completely converted into another usable form

(ii) A heat engine
(a) takes heat in , does work , and loses energy heat
(b) converts work to an equivalent amount of heat
(c) converts heat input to an equivalent amount of work
(d) uses positive work done on the system to transfer heat from a low temperature reservoir to a high temperature reservoir

(iii) Which of the following is not a colligative property?
(a) elevation of boiling point (b) osmotic pressure
(c) freezing point (d) lowering of vapour pressure

(iv) Which of the following cannot be used to find out the molecular weight of non-volatile solute?
(a)Victor Meyer's method (b) ebullioscopic method
(c) osmotic pressure (d) cryoscopic method

(v) In the reaction : $Cu_{(s)} + 2\ Ag^{+}_{(aq)} \text{-------} > Cu^{+2}_{(aq)} + 2\ Ag_{(s)}$,the reduction half-cell reaction is :
(a) $Cu + 2\ e^{-} \text{-------} > Cu^{+2}$ (b) $Ag^{+} + e^{-} \text{------} > Ag$
(c) $Cu - 2\ e^{-} \text{-------} > Cu^{+2}$ (d) $Ag - e^{-} \text{------} > Ag^{+}$

(vi) For the cell reaction to be spontaneous
(a) E° is –ve (b) ΔG is+ve (c) E° is +ve (d) both ΔG and E° are +ve