

SW-364

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B.Sc. (Part-III) (Semester -V) Examination, October -2019

CHEMISTRY

Physical Chemistry (Paper-IX)

Sub. Code : 65823

Day and Date : Thursday, 31 - 10 - 2019

Total Marks : 40

Time : 12.00 noon to 2.00 p.m.

- Instructions :
- 1) All questions are compulsory.
  - 2) Figures to the right indicate full marks.
  - 3) Neat and labelled diagrams must be drawn wherever necessary.
  - 4) Use of log table and calculator is allowed.

Q1) Choose the correct alternative for each of the following and rewrite the sentences: [8]

- a) In Nernst equation for the calculation of emf of cell, F represents \_\_\_\_\_.
- i) Quantum
  - ii) Einstein
  - iii) Faradays
  - iv) Reaction Quotient
- b) According to Hooke's law the force,  $f =$  \_\_\_\_\_.
- i)  $-k \Delta x$
  - ii)  $k \Delta x$
  - iii)  $\frac{1}{2} hc \omega_0$
  - iv)  $\frac{1}{2} hc$
- c) In vibrational spectra, the energy levels are equally spaced with spacing of \_\_\_\_\_.
- i)  $hc$
  - ii)  $\bar{\omega}_0$
  - iii)  $\omega_0$
  - iv)  $\Delta E / hc$
- d) Any stationary wave motion may be represented by a sine function as \_\_\_\_\_.
- i)  $A = \psi \sin 2\pi$
  - ii)  $A = \sin 2\pi vt$
  - iii)  $A = \sin vt$
  - iv)  $A = \psi \sin 2\pi vt$
- e) Each orbital can contain maximum of \_\_\_\_\_ electron with opposite spin.
- i) one
  - ii) two
  - iii) three
  - iv) four

P.T.O.

