

# CHEMISTRY 2019

Time: 20 Minutes

Max. Marks: 17

## SECTION A (MULTIPLE CHOICE QUESTIONS)

1. Choose the correct answer for each from the given options.

- (i) The number has five significant figures:  
• 391.10 • 300002 • 30000 • 10300
- (ii) At S.T.P., the volume of  $3.01 \times 10^{23}$  molecules of  $H_2$  gas is  
•  $22.5 \text{ dm}^3$  •  $22.4 \text{ dm}^3$  •  $11.2 \text{ dm}^3$  •  $2.24 \text{ dm}^3$
- (iii) An ideal gas obeys gas laws at:  
• high temperature • high pressure  
• all temperatures & pressure • low temperature
- (iv) The process of direct conversion of solid into vapour is called:  
• Condensation • Sublimation  
• Evaporation • Neutralization
- (v) Capillary action of liquids is due to:  
• Viscosity • Surface tension • Density • Fluidity
- (vi)  $(n + 1)$  value for  $Sd$  orbital is:  
• 4 • 5 • 6 • 7
- (vii) The colour has the shortest wavelength in the visible spectrum of light:  
• Red • Violet • Green • yellow
- (viii) This series of lines is produced when the electron jumps from the 4<sup>th</sup> orbit to the 2<sup>nd</sup> orbit:  
• Lyman • Balmer • Brackett • Paschen
- (ix) The maximum number of electron can be accommodated in  $f$  orbital is: • 7 • 10 • 14 • 15
- (x) This Hydrogen halide has the highest percentage of ionic character: • HF • HCl • HBr • HI
- (xi) The molecule has zero dipole moment:  
•  $NH_3$  •  $CO_2$  • HCl •  $H_2O$
- (xii) 1 Debye is equal to: •  $2.25 \times 10^{-13} \text{ Cm}$  •  $3.4 \times 10^{-40} \text{ Cm}$   
•  $3.335 \times 10^{-23} \text{ Cm}$  •  $3.335 \times 10^{-30} \text{ Cm}$
- (xiii) One joule is equal to:  
• 0.239 cal • 0.391 cal • 0.398 cal • 4.184 cal
- (xiv) In the following reaction,  $K_p > K_c$ :  
•  $H_2 + I_2 \rightleftharpoons 2HI$  •  $PCl_5 \rightleftharpoons PCl_3 + Cl_2$   
•  $2SO_2 + O_2 \rightleftharpoons 2SO_3$  •  $2NO_2 \rightleftharpoons N_2O_4$
- (xv) Universal indicator in acid given:  
• Green colour • Yellow colour  
• Pink colour • Red colour
- (xvi) The oxidation number of Mn in  $K_2MnO_4$  is:  
• +2 • +4 • +6 • +7
- (xvii) A powdered solid is more reactive than its chunks due to its:  
• Higher temperature • Greater volume  
• Greater surface area • Higher pressure