

B.SC. ZOOLOGY
SEMESTER-1ST
ORGANIC, INORGANIC AND PHYSICAL CHEMISTRY
BSC-711

[PART-A : Objective]

Choose the correct answer from the following:

1X20=20

- Dual behavior of matter was proposed by
 - Einstein
 - Bohr
 - de Broglie
 - Schrodinger
- Electron density of atomic orbitals can be given by
 - Ψ^2
 - Ψ
 - 2Ψ
 - $\dot{H}\Psi$
- Heisenberg uncertainty principle predicts
 - The energy of the orbitals
 - Probability of finding the electrons
 - Wavelength of the emitted radiations
 - Size of atomic orbitals
- In which of the following orbitals electrons will be filled up first
 - 4p
 - 4s
 - 3d
 - 4f
- The general electronic configuration of halogens is
 - ns^2np^3
 - ns^2np^6
 - ns^2np^5
 - ns^2np^1
- Which of the following bond will be the most weakest
 - Ionic bond
 - Covalent bond
 - van der Waal bond
 - Metallic bond
- Which of the following atoms will have the highest ionization enthalpy
 - C
 - N
 - O
 - B
- Stability order of carbocation is
 - $1^\circ > 2^\circ > 3^\circ$
 - $3^\circ > 2^\circ > 1^\circ$
 - $2^\circ > 1^\circ > 3^\circ$
 - $3^\circ > 1^\circ > 2^\circ$
- The -OMe group shows
 - Only +I effect
 - Only -I effect
 - +I & +R- effect
 - I & +R- effect
- According to Bronsted-Lowry theory, a base
 - donates electron pair
 - accepts proton (H^+ ion)
 - reacts with Lewis acid
 - produces hydroxide (OH^-) ion in aqueous medium
- Which is the strongest Lewis base among the following
 - H_2O_2
 - HF
 - NH_3
 - H_2O
- An example of a non-polar solvent is
 - Me_2CO (Acetone)
 - H_2O (water)
 - MeOH (methanol)
 - C_6H_{14} (Hexane)
- Which one of the following has inter molecular hydrogen bonding?
 - P_2O_5
 - H_2S
 - PH_3
 - H_2O
- Inductive effect is transmitted through
 - pi-bonds
 - sigma bonds
 - both the pi & sigma bonds
 - None of them

15. In defining Charle's law quantity which remains constant is
- volume
 - pressure
 - temperature
 - forces
16. In Boyle's law the constant of proportionality K would be equal to
- PT
 - PV
 - P/V
 - P/T
17. In kinetic gas equation of gases velocities of all molecules are not equal so we use
- Square of velocity
 - Mean square velocity
 - Under root of velocity
 - Cube of velocity
18. On what factor does the average kinetic energy of gas molecules depend?
- nature of the gas
 - temperature
 - volume
 - mass
19. Molar gas constant has the value
- $7 \text{ J mol}^{-1} \text{ K}^{-1}$
 - $8 \text{ J mol}^{-1} \text{ K}^{-1}$
 - $8.31 \text{ J mol}^{-1} \text{ K}^{-1}$
 - $5 \text{ J mol}^{-1} \text{ K}^{-1}$
20. The perfect example of an ideal gas is
- air
 - hydrogen
 - Water vapor
 - None of the above

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[PART (A) : OBJECTIVE]

Duration : 20 Minutes

Serial no. of the
main Answer sheet

Course :

Semester : Roll No :

Enrollment No : Course code :

Course Title :

Session : 2017-18 Date :

Instructions / Guidelines

- The paper contains twenty (20) / ten (10) questions.
- Students shall tick (✓) the correct answer.
- No marks shall be given for overwrite / erasing.
- Students have to submit the Objective Part (Part-A) to the invigilator just after completion of the allotted time from the starting of examination.

Full Marks	Marks Obtained
20	

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Scrutinizer's Signature

Examiner's Signature

Invigilator's Signature