

Subject  
Code **2035**

# CHEMISTRY(DSE-III)

Question Booklet No.

Signature of Invigilator .....	<b>To be filled in by candidate by ball-point pen only</b>	OMR Sl. No. _____
	Roll No. _____	_____
Time of Examination .....	<b>Declaration : I have read and understood the instructions given below.</b>	<b>Full Marks : 80/50</b>
Date of Examination .....	Full Signature of Candidate .....	
	Name of Candidate .....	

Number of Questions } **50/40**  
in the Booklet



## UU 6th Semester Examination, 2020

### INSTRUCTIONS TO CANDIDATES

- Immediately after getting the booklet read instructions carefully mentioned on the front and back page of the Question Booklet. Do not open the seals unless asked by the Invigilator.
- Write your Roll No., OMR Response Sheet No., in the specified places given above and put your signature.
- Write the subject code of the booklet in your OMR Sheet.
- Make all entries in the OMR Response Sheet as per the given instructions; otherwise OMR Response Sheet will not be evaluated.
- After opening the seals, ensure that the Question Booklet contains total no. of pages as mentioned above and printing of all the **50 / 40** questions are proper. If any discrepancy is found, inform the invigilator within **15** minutes and get the correct Question Booklet.
- For each question in the Question Booklet choose the correct option from the given four alternatives and darken the same circle in the OMR Response Sheet with Black or Blue ball-point pen.
- Darken the circle of correct answer properly; otherwise answers will not be evaluated. The candidate will be fully responsible for it.
- If more than one option is darken foe a particular question, then it will be treated as wrong answer.
- After completion of the examination, only OMR Response Sheet is to be handed over to the invigilator.

**THERE IS NO NEGATIVE MARKING FOR WRONG ANSWER**

## Rough Work

## CHEMISTRY (DSE - III)

(Answer any 25 questions)

- Which of the following is a green house gas?
  - CH<sub>4</sub>
  - N<sub>2</sub>
  - O<sub>2</sub>
  - Ar
- Which of the following compounds causes depletion in ozone layer?
  - N<sub>2</sub>
  - O<sub>2</sub>
  - CFC
  - water vapour
- What is COD?
  - Critical Oxygen demand
  - Chemical Oxygen demand
  - Calibrated Oxygen demand
  - none of these
- Which elements are responsible for eutrophication?
  - N<sub>2</sub>/P
  - CO<sub>2</sub>/O<sub>2</sub>
  - N<sub>2</sub>/O<sub>2</sub>
  - H<sub>2</sub>O/N<sub>2</sub>
- Nitrogen gas is manufactured by which of the following methods?
  - Fractional distillation of liquid air
  - Condensation of liquid air
  - Precipitation of water vapour
  - Neutralisation
- Which raw materials are used for the synthesis of Hydrogen gas in Bosch Process?
  - Coke/ CH<sub>4</sub>
  - Water/ O<sub>2</sub>
  - Coke/ Water
  - Water/ H<sub>2</sub>
- H<sub>2</sub>SO<sub>4</sub> is manufactured by which process?
  - Bosch process
  - Contact Process
  - lime soda process
  - none of these
- What is the chemical formula of bleaching powder?
  - Ca(OCl)Cl
  - Ca<sub>2</sub>(OCl)Cl
  - Ca(OCl)<sub>2</sub>Cl
  - Ca(OCl)Cl<sub>2</sub>
- Potassium permanganate is used as
  - reducing agent
  - Oxidising agent
  - dehydrating agent
  - none of these
- Which of the following iron is the worst quality of iron?
  - Cast iron
  - wrought iron
  - steel
  - nichrome

- 11 Which of the following is an intrinsic semiconductor?  
(A) As  
(B) B  
(C) Ge  
(D) Al
- 12 Ozone layer is present in which layer of atmosphere?  
(A) Troposphere  
(B) Stratosphere  
(C) Mesosphere  
(D) Exosphere
- 13 Which of the following devices is used in air pollution control?  
(A) Bag filter  
(B) Electrostatic precipitator  
(C) Cyclone collector  
(D) all of these
- 14 In coal sulphur is present as  
(A) iron pyrite  
(B) sulphur dioxide  
(C) monoclinic sulphur  
(D) sulphuric acid
- 15 As per water quality standards in India the maximum permissible limit of hardness is  
(A) 500 ppm  
(B) 250 ppm  
(C) 100 ppm  
(D) 50 ppm
- 16 Suspended colloidal impurities are separate from water by which process?  
(A) Filtration  
(B) Coagulation  
(C) disinfection  
(D) aeration
- 17 The dissolved inorganic impurities can be removed by which process?  
(A) Disinfection  
(B) Desalination  
(C) Coagulation  
(D) Filtration
- 18 Turbidity is measured in which unit?  
(A) NTU  
(B) ppm  
(C) mg/lit  
(D) STU
- 19 Which impurities are removed by reverse osmosis method?  
(A) suspended solids  
(B) floatable solids  
(C) dissolved salts  
(D) micro organisms
- 20 BOD stands for  
(A) biochemical oxygen demand  
(B) british oxygen demand  
(C) british oxygen depletion  
(D) biological oxygen depletion
- 21 The methods used for biological treatment are  
(A) lagoon  
(B) activated sludge process  
(C) oxidation ditches  
(D) all of these

- 22 Permanent hardness of water may be removed by the addition of
- (A) lime
  - (B) sodium carbonate
  - (C) potassium permanganate
  - (D) sodium bicarbonate
- 23 The main pollutants released from paper and pulp industries are
- (A) Hydrogen sulphide
  - (B) organic suspensions
  - (C) Sulphuric acid
  - (D) oxides of nitrogen
- 24 Hardness in water is caused due to presence of
- (A) Insoluble salts of Ca and Mg
  - (B) soluble salts of Ca and Mg
  - (C) Insoluble salts of Na
  - (D) none of these
- 25 What is the pH of  $10^{-2}$  mols/lit of HCl solution?
- (A) 1
  - (B) 2
  - (C) 3
  - (D) 4
- 26 Which of the following is not a renewable source of energy?
- (A) Wind energy
  - (B) Tidal energy
  - (C) Energy from coal
  - (D) H<sub>2</sub> energy
- 27 The principle of atomic bomb is based on which nuclear reaction?
- (A) nuclear fission
  - (B) nuclear fusion
  - (C) nuclear combination
  - (D) none of these
- 28 If one neutron is bombarded with one atom of  ${}_{92}\text{U}^{235}$  how many neutrons are produced?
- (A) 2
  - (B) 3
  - (C) 4
  - (D) 5
- 29 In a nuclear reactor which one is used as a coolant.
- (A) D<sub>2</sub>O
  - (B) CO<sub>2</sub>
  - (C) O<sub>2</sub>
  - (D) none of these
- 30 The energy stored with hot molten rocks deep inside the earth is called
- (A) tidal energy
  - (B) geothermal energy
  - (C) geological energy
  - (D) ground energy
- 31 The chemical processes through which enzymes perform reactions between organic compounds are called
- (A) catalysis
  - (B) metabolism
  - (C) biocatalysis
  - (D) heterogeneous catalysis

- 32 Dissolved oxygen in water sample is measured by which method?
- (A) Winkler's method
  - (B) precipitation
  - (C) induced fit method
  - (D) none of these
- 33 Enzymes responsible for catalysing addition and elimination reactions are called
- (A) lyases
  - (B) Transferases
  - (C) Oxido-reductase
  - (D) catalyses
- 34 Which of the following is a disadvantage of renewable energy?
- (A) High pollution
  - (B) Available only in few places
  - (C) High running cost
  - (D) unreliable supply
- 35 A solar cell is a device that converts the light energy to electrical energy by
- (A) Photovoltaic effect
  - (B) Chemical effect
  - (C) Environmental effect
  - (D) Physical effect
- 36 Which of the following is not under the Ministry of New and Renewable Energy?
- (A) Wind energy
  - (B) Large hydro energy
  - (C) Solar energy
  - (D) Tidal energy
- 37 Which of the following pollutants is called the particulate pollutant?
- (A) Ozone
  - (B) Radon
  - (C) Fly ash
  - (D) Ethylene
- 38 The semi liquid produced from the solids of the sewage accumulated at the bottom of settling tank is called
- (A) sludge
  - (B) zeolite
  - (C) salinity
  - (D) organic waste
- 39 Nitrogen fixation takes place by which of the following processes?
- (A) by symbiotic bacteria
  - (B) chemical process
  - (C) atmospheric process
  - (D) all of these
- 40 What is doping in semiconductor?
- (A) Addition of pentavalent elements to tetravalent element
  - (B) Addition of trivalent elements to tetravalent element
  - (C) both (a) and (b)
  - (D) none of these



