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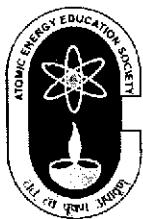


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AEES

Previous Year Paper
TGT Biology & Chemistry
September 2015





ATOMIC ENERGY EDUCATION SOCIETY

Anushaktinagar, Mumbai-400 094

2015 – Open Candidates Examination

Post – TGT (Biology/Chemistry)

Date – 28.09.2015

Time – 1 Hour 30 Minutes

Maximum Marks – 50

Instructions

1. There are 50 Multiple Choice Questions (MCQ) in this paper. Each question carries 1 mark. There will be negative marking of 0.25 per wrong answer.
2. Answer should be darkened/marked in the OMR answer sheet only.
3. Use of any electronic gadget (e.g. calculator, mobile phone, etc.) is not permitted, in the examination hall.
4. In case a candidate has not signed the Attendance Sheet or the OMR Answer Sheet is not signed by the Invigilator, it will be dealt with as a case of unfair means.
5. On completion of the test, the candidates MUST HAND OVER THE OMR ANSWER SHEET AND QUESTION PAPER TO THE INVIGILATOR in the room/hall.
6. The candidates should ensure that the OMR answer sheet is not folded or damaged.

To be filled by the candidate

Name of the Candidate: _____

Roll Number: _____

OMR Number: _____

No of printed pages – 6

2015 – Open Candidates- TGT (Biology/Chemistry) – QP

Q.1) The boiling point of ethane is -88°C . This temperature will be equivalent to-

(a) 285 K	(b) 288K
(c) 185 K	(d) 361 K

Q.2) Which of the following represent the suitable conditions for the liquefaction of gas?

(a) Low temperature, low pressure	(b) high temperature, low pressure
(c) low temperature, high pressure	(d) high temperature, high pressure

Q.3) Which of the following does not have a fixed melting point/ boiling point?

(a) Gold	(b) ethanol
(c) oxygen	(d) air

Q.4) In the hydro carbon $\text{HC} = \text{C-H}$, the covalency of carbon is?

(a) One	(b) two
(c) three	(d) four

Q.5) The dyes present in fountain pen ink can be separated by the technique of

(a) Fractional distillation	(b) crystallisation
(c) infrared photography	(d) chromatography

Q.6) Milk of Magnesia is a –

(a) Colloid	(b) true solution
(c) suspension	(d) homogeneous mixture

Q.7) Which one of the following does not show Tyndall effect?

(a) Soap solution	(b) ink
(c) sugar solution	(d) starch solution

Q.8) One nm (nanometre) is equal to –

(a) 10^{-9} mm	(b) 10^{-7} cm
(c) 10^{-9} cm	(d) 10^{-6} m

Q.9) One of the following elements has an atomicity of one. This element is-

(a) Hydrogen	(b) sulphur
(c) helium	(d) ozone

Q.10) The formula of sulphate of an element x is $X_2(SO_4)_3$. The formula of nitride of element x will be

(a) X_2N (b) XN_2
(c) XN (d) X_2N_3

Q.11) A particle P has 18 electrons, 20 neutrons and 19 protons. This particle must be

(a) a molecule (b) a binary compound
(c) an anion (d) a cation

Q.12) Which of the following has maximum number of atoms?

(a) 18 g of H_2O (b) 18g of O_2
(c) 18 g of CO_2 (d) 18 g of CH_4

Q.13) The correct electronic configuration of chloride ion is –

(a) 2,8,4 (b) 2,8,7
(c) 2,8,8 (d) 2,8,6

Q.14) Radioactive isotope used in the treatment of cancer is –

(a) Arsenic – 74 (b) cobalt – 60
(c) iodine – 131 (d) plutonium – 239

Q.15) Which of the following is isoelectronic with Mg^{2+}

(a) Ca^{2+} (b) O^{2-}
(c) Cl^- (d) Ar

Q.16) The volume of CO_2 gas formed when 2.5 g of calcium carbonate is dissolved in hydrochloric acid at $0^\circ C$ and 1 atm. pressure is

(a) 1.12 L (b) 56.0L
(c) 0.28 L (d) 0.56L

Q.17) Soft drink contains –

(a) Acetic acid (b) tartaric acid
(c) carbonic acid (d) nitric acid

Q.18) The pH of 1×10^{-8} M HCl solution is –

(a) 8 (b) 7
(c) 6 (d) between 6 & 7

Q.19) Which of the following acid is used by gold smiths for cleaning gold and silver ornaments?

(a) HCl (b) H_2SO_4
(c) HNO_3 (d) H_3PO_4

Q.20) The absolute charge of electron is-

(a) $1.1 \times 10^{-11} \text{ C}$ (b) $1.6 \times 10^{-14} \text{ C}$
(c) $1.6 \times 10^{-19} \text{ C}$ (d) $6.0 \times 10^{-21} \text{ C}$

Q.21) When an alpha particle is emitted by an element,

- (a) element moves 2 places to the right in the periodic table
- (b) element moves one place to the left in the periodic table
- (c) element moves 2 places to the left in the periodic table'
- (d) element maintains its position

Q.22) Which of the following is the correct decreasing order of relative sizes ?

(a) I^+ , I^+ , I^- (b) I^- , I , I^+
 (c) I , I^+ , I^- (d) I^+ , I^- , I

Q.23) An element has electronic configuration 2,8,4. It belongs to which group and period of the periodic table –

Q.24) A volatile solid soluble in benzene would probably —

Q.25) Coal gas is mixture of-

(a) $\text{CH}_4 + \text{H}_2 + \text{CO}_2 + \text{H}_2\text{S}$ (b) $\text{CH}_4 + \text{H}_2 + \text{CO} + \text{H}_2\text{S}$
 (c) $\text{C}_2\text{H}_6 + \text{C}_3\text{H}_8 + \text{C}_4\text{H}_{10}$ (d) $\text{CH}_4 + \text{H}_2 + \text{CO}$

Q.26) A molecule broken down during the light reaction of photosynthesis-

Q.27) Oxygen dissociation curve is-

(a) Parabolic (b) Hyperbolic
(c) Sigmoid (d) Straight

Q.28) Palaeontological evidences for evolution refer to the-

Q.29) Analogous organs arise due to:

(a) Divergent evolution	(b) artificial selection
(c) genetic drift	(d) convergent evolution

Q.30) The blood vessel which has the lowest urea concentration-

(a) hepatic portal vein	(b) pulmonary vein
(c) renal vein	(d) pulmonary artery

Q.31) The pacemaker of human heart is-

(a) AV- node	(b) SV- node
(c) SA-node	(d) M-node

Q.32) Metameric segmentation is the characteristics of-

(a) platyhelminthes & Arthropoda	(b) Echinodermata & Annelida
(c) Annelida & Arthropoda	(d) Mollusca & Chordata

Q.33) Haemocoel is found in-

(a) Echinoderms	(b) Sponges
(c) Arthropods	(d) Annelids

Q.34) A process which depends on a pressure difference between the-

(a) deamination	(b) ultrafiltration
(c) osmoregulation	(d) selective reabsorption

Q.35) Correct order of ear ossicles in rabbit is-

(a) incus, stapes, malleus	(b) malleus, incus, stapes
(c) malleus, stapes, incus	(d) incus, malleus, stapes

Q.36) Cerebellum is a part of brain which is responsible for-

(a) interpreting sensations	(b) conducting reflexes in the body
(c) maintaining posture & equilibrium	(d) controlling thinking memory & reasoning

Q.37) Which gland produces an hormone which stimulates thyroxin production-

(a) adrenal	(b) liver
(c) thyroid	(d) pituitary

Q.38) Blind spot in an eye is located-

(a) in fovea centralis	(b) in middle of lens
(c) where optic nerve leaves the retina	(d) in center of pupil

Q.39) Wilting of the plant occurs when-

- (a) phloem is blocked
- (b) xylem is blocked
- (c) both xylem and phloem are blocked
- (d) a few old roots are removed

Q.40) Fleming's bacterial culture during the discovery of penicillin was-

- (a) Penicillium
- (b) aspergillus
- (c) staphylococcus
- (d) streptococcus

Q.41) Purine and Pyrimidine nucleotides polymerise to form-

- (a) nucleosides
- (b) nucleic acids
- (c) amino acids
- (d) lipids

Q.42) Anticodons are present on-

- (a) tRNA
- (b) mRNA
- (c) ribosomal RNA
- (d) Viral RNA

Q.43) Apoenzyme is a-

- (a) protein
- (b) carbohydrate
- (c) vitamin
- (d) amino acid

Q.44) The pivotal compound between glycolysis and TCA Cycle is-

- (a) Glucose-6-Phosphate
- (b) Oxaloacetate
- (c) Acetyl CoA
- (d) pyruvic acid

Q.45) During meiotic prophase-1 chiasmata are observed in-

- (a) Diplotene
- (b) Pachytene
- (c) Diakinesis
- (d) Leptotene

Q.46) Carolus Lannaeus is referred as-

- (a) Father of classification
- (b) Father of Taxonomy
- (c) Father of Biology
- (d) Father of Genetics

Q.47) The chemical test that is used for diagnosis of typhoid is-

- (a) ALISA- Test
- (b) ESR- Test
- (c) PCR- Test
- (d) Widal- Test

Q.48) The drug 'marijuana' is obtained from-

- (a) Cannabis sativa
- (b) Papaver somniferum
- (c) Atropa belladonna
- (d) Datura alba

Q.49) Emasculation is concerned with-

- (a) Hybridization
- (b) Clonal selection
- (c) Mass selection
- (d) Pure line selection

Q.50) The new varieties of plants produced by-

- (a) Selection and hybridization
- (b) mutation and selection
- (c) introduction and mutation
- (d) selection and introduction

OPEN ADVERTISEMENT CANDIDATE EXAM-2015

TGT (Biology/Chemistry)

ANSWER KEY

1	C	26	C
2	C	27	C
3	D	28	C
4	D	29	D
5	D	30	C
6	C	31	B
7	C	32	C
8	B	33	C
9	C	34	B
10	C	35	B
11	D	36	C
12	D	37	D
13	C	38	C
14	B	39	B
15	B	40	C
16	D	41	B
17	C	42	A
18	D	43	A
19	C	44	C
20	C	45	A
21	C	46	B
22	B	47	D
23	C	48	A
24	B	49	A
25	D	50	A

