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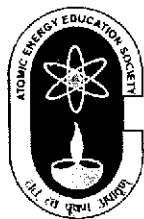
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AEES

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 –

- (a) 2, 4
- (b) 3, 4
- (c) 4, 3
- (d) 4, 2

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

- (a) Have electrovalent bonding
- (b) have covalent bonding
- (c) be a good conductor of electricity
- (d) be a salt

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-

- (a) Oxygen
- (b) Chlorophyll
- (c) Water
- (d) Carbon dioxide

Q.27) Oxygen dissociation curve is-

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

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

- (a) Development of embryo
- (b) Homologous organs
- (c) Fossils
- (d) Analogous organs

- 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



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