MDCAT (ETEA entry test) — 2016 · Solved Past Paper

Body: Educational Testing and Evaluation Agency (ETEA) · **Post:** MDCAT (ETEA entry test) · **Year:** 2016 · **Questions:** 200 in the original paper — **186 solved and verified**, 12 excluded as defective (Q5, Q29, Q37, Q60, Q68, Q89, Q98, Q99, Q103, Q144, Q153, Q199), 2 unrecoverable (Q42, Q43) · **Price:** Free

> **How to use this paper:** each question shows the stem, the four options, and the correct answer. Click “Why each option?” under a question to see all four options explained — one question teaches four topics. General Knowledge answers are as of the 2016 sitting.

Source note: Question stems and options: ETEA MDCAT 2016 (Scribd doc 363367615, "ETEA Solved Papers 2010–2017", M. Nawaz Khan Abbasi — Medical 2016, printed pp. 22–30, with the printed answer key on p. 145 (Medical half), accessed 15 Nov 2026). Exam held Sunday 24 July 2016 (the test had been conducted by 26 July 2016 per the Balochistan Times report of that date; ETEA entry tests are held on Sundays). 200 MCQs, 3 hours. Printed key letter counts A49 / B42 / C55 / D52 (Q42 and Q43 marked "-"). Subjects Biology/Chemistry/Physics/English interleaved across Q1–Q200 (no subject sections in the printed paper). 12 DEFECTIVE-excluded + 2 GAP (Q42/Q43, content deliberately omitted in the source). 4 printed-key corrections (Q78, Q84, Q158, Q197). Answers verified independently against reference facts, worked derivations and targeted sources, never from the printed key alone. Decisions by the assistant under the owner's 8 Nov 2026 delegation.

Question 1 Biology

The tissues present in anglosperms but absent in gymnosperms are:

- B. Companion cell
- C. Sieve tube
- D. Both (a) and (b) ✓ **Correct answer**

Question 2 Biology

Individuality of every persons is maintained by nucleotide genome sequence difference of:

- A. 1% ✓ **Correct answer**
- B. 2%
- C. 3%
- D. 5%

Question 3 Biology

Mature cells of cartilage are:

- A. Chondrocytes ✓ **Correct answer**
- B. Osteocytes
- C. Osteoblasts
- D. Osteoclasts

Question 4 Physics

The total energy of a particle executing S.H.M. is:

- A. Inversely proportional to the square of the amplitude
- B. Directly proportional to the amplitude
- C. Zero
- D. Directly proportional to the square of the amplitude ✓ **Correct answer**

5 Physics

A weight suspended from an ideal spring oscillates up and down with a period T. If the amplitude of the oscillation is doubled, the period will be:

- A. T
- B. 1
- C. 2T
- D. T

No answer is given for this question, and none is taught. NO CORRECT OPTION — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 6 Physics

A heat engine:

- A. Converts heat input to an equivalent amount of work
- B. Converts work to an equivalent amount of heat
- C. Takes heat in, does work, and loses energy as heat ✓ **Correct answer**
- D. Uses positive work done on the system to transfer heat from a low temperature reservoir to a high temperature reservoir

Question 7 English

Choose the correct sentence.

- A. Each contained a different specie of insect.
- B. Each contained a different species of insect. ✓ **Correct answer**
- C. Each contained a different specie of insects.
- D. Each contained a different specei of insect.

Question 8 Chemistry

The hydrated cations of first transition series that imparts a blue color:

- +, Co2+, Cu2+ ✓ **Correct answer**
- B. Cu2+, Zn2+, Ti4+
- C. Ti3+, Zn2+, Cu2+
- D. Cr3+, Ti4+, Cu2+

Note: Note: The text layer renders Co as "CO" and Ti as "Tt" (the "i" renders as "t" in this font); read as Co2+ and Ti3+/Ti4+.

Question 9 Chemistry

Select the correct order of the acids strength?

- A. CH3COOH >> CHCl2COOH > CH2ClCOOH
- B. CHCl2COOH > CH2ClCOOH > CH3COOH ✓ **Correct answer**
- C. CH3COOH > CHCl2COOH > CH2ClCOOH
- D. CHCl2COOH >> CH3COOH > CH2ClCOOH

Note: Note: Option (d)'s middle subscript renders as "2" in the text layer; read as 3 by the pattern of (a) and (c).

Question 10 Physics

If 50 KV is the applied potential in ax X-ray tube then the minimum wavelength of X-rays produced is:

- A. 0.2 nm
- B. 2 nm
- C. 0.02 nm ✓ **Correct answer**
- D. 2 Å

Note: Note: Option (d) prints "2A" (the ångström symbol renders as "A" in the text layer); read as 2 Å.

11 Physics

Two projectiles are in flight at the same time. The acceleration of one relative to the other:

- A. Is always 9.8 m/s 2
- B. Can be as large as 19.8 m/s 2
- C. Can be horizontal
- D. Is zero ✓ **Correct answer**

Question 12 English

Choose the correct sentence.

- A. He can speak Japanese because he was born in Canada.
- B. He can speak Japanese until he was born in Canada.
- C. He can speak Japanese even though he was born in Canada ✓ **Correct answer**
- D. He can speak Japanese so he was born in Canada.

Question 13 Chemistry

Which is not correct about the manufacture of ammonia by Haber-Process? The break opening of the nitrogen triple bond (N≡N) to form NH2 in first step of the reaction is taken as:

- A. Very difficult step
- B. Highly unstable product
- C. Highly endothermic ✓ **Correct answer**
- D. None of the above

Note: Note: The stem prints "NH2" (the text layer gives subscript 2); the Haber product is NH3 — the paper's subscript is a misprint, filed as printed.

14 Chemistry

Carbon monoxide can be converted by hydrogenolysis to alkanes by the process known as:

- A. Contact process
- B. Fischer-tropsch (FT) process ✓ **Correct answer**
- C. Fermentation process
- D. Haber-Bosch process

Question 15 Biology

How much phosphorus is required by an adult man per day?

- A. 500 mg
- B. 400 mg
- C. 800 mg ✓ **Correct answer**
- D. 1800 mg

Question 16 Biology

Of the following the dioecious plant is

- A. sun-flower
- B. Wheat
- C. Mulberry ✓ **Correct answer**
- D. Maize

Note: Note: The stem prints "dioeclous" (misprint for "dioecious"); filed as corrected.

Question 17 Biology

Each kidney of human being is weighing about:

- A. 140 grams
- B. 160 grams

grams

- D. 150 grams ✓ **Correct answer**

Question 18 Biology

How many sodium ions (Na+) will be pumped out, when 10 potassium ions (K+) are transported inward at the resting membrane potential?

- A. 5
- B. 10
- C. 15 ✓ **Correct answer**
- D. 20

Note: Note: The stem prints "IO-postassium" and "resting member potential" (misprints in the source).

Question 19 Chemistry

At absolute zero the molecules of hydrogen gas will have:

- A. Only translational motion
- B. Only vibrational motion
- C. Only rotational motion
- D. All the motion are ceased ✓ **Correct answer**

Question 20 Biology

Which one of the following discovered the vaccine for first time against the small pox in 1796.

- A. Edward Jenner ✓ **Correct answer**
- B. Hoistem wings
- C. F. H Herbor
- D. JammesShwang

21 Biology

The main axis culminates in a flower and produces three or more daughter axis each of which continues the branching in similar manner is know as:

- A. Uniparous cyme
- B. biparous cyme
- C. Multiparous cyme ✓ **Correct answer**
- D. Cymosecapitulum

Question 22 Biology

The ripened & fertilized ovule is called:

- A. Fruit
- B. Seed ✓ **Correct answer**
- C. Endosperm
- D. Perisperm

Question 23 Physics

In Compton scattering from stationary electrons the largest change in wavelength occurs when the photon is scattered through:

- A. 0°
- B. 45°
- C. 90°
- D. 180° ✓ **Correct answer**

Note: Note: The degree symbol renders as "0" in the text layer; read as °.

Question 24 Physics

If the potential difference across a resistor is doubled:

- A. Only the current is doubled ✓ **Correct answer**

- C. Only the resistance is doubled
- D. Only the resistance is halved

Question 25 Physics

Nuclear fusion in the sun is increasing in supply of:

- A. Hydrogen
- B. Helium ✓ **Correct answer**
- C. Nucleons
- D. Positrons

Question 26 English

_____ my mind, what we need in this company is a better marketing plan.

- A. For
- B. In
- C. To ✓ **Correct answer**
- D. At

Question 27 Chemistry

A dilute hydrochloric acid is added to a flask containing lime stone; a gas is produced which is dissolved in lime water in a test tube; a white precipitate is formed. The precipitate is of:

- A. $CaSO_4$
- B. $CaCO_3$ ✓ **Correct answer**
- C. $CaCl_2$
- D. $MgCO_3$

Note: Note: The stem prints "time stone" and "time water" (misprints for "lime stone" and "lime water").

28 Chemistry

2XeF6 + SiO2 -> 2XeOF4 + SiF4. Consider the above chemical reaction. If 122.6 g of XeF6 reacts with 60 g of SiO2 to form the products. Select the limiting reagent and amount of SiF4 formed: (XeF6 245.3 amu, SiO2 = 60 amu, SiF4 = 104 amu)

- A. XeF6, 26 g ✓ **Correct answer**
- B. SiO2, 26 g
- C. XeF6, 52 g
- D. SiO2, 52 g

Note: Note: Options (b) and (d) print "SlO" (the "i" renders as "l" in the text layer); read as SiO2.

Question 29 Chemistry

Ethanal reacts with CH3CH2MgBr the product formed is:

- A. CH3CH2CH2OH
- B. [structural formula — diagram in the source]
- C. [structural formula — diagram in the source]
- D. [structural formula — diagram in the source]

No answer is given for this question, and none is taught. UNRECOVERABLE — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 30 Chemistry

The functional group region in infra-red spectrum lies between:

- A. 500 – 1300 cm-1
- B. 600 – 1500 cm-1
- C. 1500 – 4000 cm-1 ✓ **Correct answer**
- D. 2500 – 3500 cm-1

31 Biology

Which one of the following comes into existence when bacterial plasmid naturally modified to produce it?

- A. pBR 322 ✓ **Correct answer**
- B. Npq 303
- C. oSR 210
- D. kMG 319

Question 32 Biology

Exophthalmia is a classic symptom of:

- A. Hyperthyroidism ✓ **Correct answer**
- B. Hypocalcemia
- C. Hypochondria
- D. Hyperglycemia

Question 33 Biology

Percentage of CO carried by plasma is:

- A. 5%
- B. 6%
- C. 7% ✓ **Correct answer**
- D. 8%

Question 34 Physics

In stationary waves:

- A. There is not transfer of energy ✓ **Correct answer**
- B. Energy is constant at all points
- C. Phase is the same for all points

Note: Note: A stray vector-symbol fragment follows the options in the text layer; omitted.

Question 35 Physics

If each vector have unit magnitude, then A·A is:

- A. South
- B. One ✓ **Correct answer**
- C. North
- D. West

Note: Note: The stem's vector symbols render as PUA glyphs in the Scribd text layer; the Learnospot 2016 quiz shows the stem as "A·A" — the dot product of a unit vector with itself is 1 (b).

Question 36 Chemistry

Which is not true about Grignard reagent?

- A. They are highly reactive compounds
- B. They are very stable compounds and can be isolated easily ✓ **Correct answer**
- C. They have synthetic importance
- D. They are represented by general formula RMgX.

Question 37 Chemistry

Choose reaction that is not correct?

- A. RCOOH + SOCl2 -> RCOCl + HCl + SO2
- B. RCOOH + PCl3 -> RCOCl + HCl + POCl3
- C. CH3CH2COOH + PCl5 -> CH3CH2COCl + POCl3 + HCl
- D. [reaction scheme — diagram in the source]

s given for this question, and none is taught. UNRECOVERABLE — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 38 Biology

"C.S.F" is found in between.

- A. Pia matter and dura mater
- B. Pia mater and arachnoid mater ✓ **Correct answer**
- C. Pia mater and neural canal
- D. Dura mater and arachnoid mater

Question 39 Biology

Kelps are:

- A. Diatoms
- B. Red-algae
- C. Green-algae
- D. Brown-algae ✓ **Correct answer**

Question 40 Biology

Independent gametophyte and sporophyte are found in:

- A. Liverworts
- B. Tracheophytes
- C. Ectocarpus ✓ **Correct answer**
- D. Mosses

Question 41 Physics

In a purely resistive circuit the current:

- A. Leads the voltage by one-half of a cycle

- ds the voltage by one-fourth of a cycle
- C. Leads the voltage by one-half of a cycle
- D. Is in phase with the voltage ✓ **Correct answer**

Note: Note: Options (a) and (c) are IDENTICAL ("Leads the voltage by one-half of a cycle"); both are wrong and the keyed (d) is unique — filed as printed.

Question 42

No answer is given for this question, and none is taught. The source prints this question as a row of dashes and the printed answer key marks it "-" — the content was deliberately omitted in the source compilation. No question is served for this number.

Question 43

No answer is given for this question, and none is taught. The source prints this question as a row of dashes and the printed answer key marks it "-" — the content was deliberately omitted in the source compilation. No question is served for this number.

Question 44 English

Your friend proved more sympathetic than I, expected he _____ do.

- A. will
- B. shall
- C. would ✓ **Correct answer**
- D. should

Question 45 Chemistry

XYZ are the elements in the same short period of the periodic table the oxide of X is amphoteric the oxide of Y is basic and the oxide of Z is acidic what is the order of increasing atomic number for these elements?

- A. XYZ

- C. YXZ ✓ **Correct answer**
- D. ZXY

Note: Note: The stem prints "Exide" (misprint for "oxide"); filed as corrected.

Question 46 Chemistry

In which of the following reaction hydrogen acts as oxidizing agent.

- A. H2 + Cl2 -> 2HCl
- B. C2H2 + H2 -> C2H6
- C. 2Na + H2 -> 2NaH ✓ **Correct answer**
- D. N2 + 3H2 -> 2NH3

Question 47 Chemistry

The correct order of the reactivity of hydrocarbon given below is:

- A. C2H4 > C2H2 > C6H6 ✓ **Correct answer**
- B. C6H6 > C2H4 > C2H2
- C. C2H4 > C2H4 > C6H6
- D. C2H2 > C6H6 > C2H4

Note: Note: Option (c) prints C2H4 twice (a misprint in the source); filed as printed.

Question 48 Biology

The guard cell of the stomata in Monocot is:

- A. Kidney shape
- B. Oval
- C. Rounded
- D. Dumbbell shaped ✓ **Correct answer**

49 Biology

Photorespiration involved the following reaction which occurs in the sequence of:

- A. Glycolate -> Glycine, Glycine -> Serine + CO2, RuBP + O2 -> Glycolate
- B. RuBP + O2 -> Glycolate, Glycine -> Serine + CO2, Glycolate -> Glycine
- C. RuBP + O2 -> Glycolate, Glycolate -> Glycine, Glycine -> Serine + CO2 ✓ **Correct answer**
- D. Glycine -> Serine + CO2, RuBP + O2 -> Glycolate, Glycolate -> Glycine

Question 50 Biology

Which of the following statement is correct?

- A. High concentration of ADH increases blood pressure ✓ **Correct answer**
- B. High concentration of ADH decreases blood pressure
- C. High concentration of ADH does not affect blood pressure
- D. High concentration of ADH bring blood pressure to normal

Question 51 Physics

The number of ejected photoelectrons increases with increase.

- A. In intensity of light ✓ **Correct answer**
- B. In wavelength of light
- C. In frequency of light
- D. Never

Note: Note: Option (a) prints "flight" (misprint for "light" — the number of ejected photoelectrons increases with the intensity of light); filed as corrected.

Question 52 Chemistry

How many oxygen atoms are present in 278g of Hydrated Ferrous Sulphate? (FeSO4.7H2O = 278 amu)

- B. 6.525 x 10+24 ✓ **Correct answer**
- C. 2.408 x 10+23
- D. 6.023 x 10+22

Note: Note: Option (b) prints "6.525 x 10+24"; the true value is 6.625 x 10+24 (278 g FeSO4.7H2O = 1 mol, 11 O atoms) — (b) is the intended/closest option and is keyed. The stem prints "FeSO .7Hz 0" (FeSO4.7H2O) and "any" (amu).

Question 53 Biology

Porifera is related to the sub Kingdom of:

- A. Protozoa
- B. Parazoa ✓ **Correct answer**
- C. Metazoa
- D. Aves

Question 54 Biology

The females of one of the following classes possess a single ovary, that is:

- A. Pisces
- B. Amphibia
- C. Reptilia
- D. Aves ✓ **Correct answer**

Note: Note: The stem prints "overy" (misprint for "ovary"); filed as corrected.

Question 55 Biology

The florescent pigments in the eyes of fruit fly is an example of:

- A. Over dominance ✓ **Correct answer**
- B. Complete dominance

- D. Co-dominance

Question 56 Physics

The number of loops in the standing waves is directly dependent on:

- A. Wavelength
- B. Frequency
- C. Velocity
- D. Speed ✓ **Correct answer**

Question 57 Physics

In Einstein’s universe what is the fourth dimension:

- A. Distance
- B. Speed
- C. Time ✓ **Correct answer**
- D. Energy

Question 58 Physics

A.C and D.C have the same:

- A. Affect in charging battery
- B. Affect in charging capacitor
- C. Heating effect through a resistance ✓ **Correct answer**
- D. Affect passing through an inductance

Question 59 English

“I am disappointed that you feel you have to lie to me, Jason,” said his father. Select the correct indirect speech:

father said to Jason that he is sorry to feel disappointed that he has to lie to me.

- B. Jason’s father said to him that he was sorry that he felt he had to lie to me.
- C. Jason’s father said that he was disappointed to know that he felt he had to lie to him. ✓ **Correct answer**
- D. Jason’s father was disappointed and sorry that he had to lie to him and that he felt it.

Note: Note: The direct speech prints "lason" (the name Jason, as the options show); filed as corrected.

Question 60 Chemistry

Which is strong electrolyte?

- A. Ca(OH)2
- B. SiCl4
- C. KCl
- D. SrCl2

No answer is given for this question, and none is taught. TWO CORRECT OPTIONS — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 61 Biology

The roots given out from rhizome of fern are called:

- A. Pneumatophore
- B. Rhizophores
- C. Rhizoids
- D. Adventitious roots ✓ **Correct answer**

Note: Note: Option (b) prints "Phizophores" (misprint for "Rhizophores"); filed as corrected.

62 Biology

Pigment combination of a carotenoid is:

- A. Blue, green, brown, or red
- B. Orange, yellow, blue, or brown
- C. Yellow, orange, red, or brown ✓ **Correct answer**
- D. Blue, red, orange, or brown

Question 63 Biology

The study of fishes is called:

- A. Ornithology
- B. Ichthyology ✓ **Correct answer**
- C. Herpetology
- D. Ethology

Note: Note: Option (d) prints "Ethoogy" (misprint for "Ethology"); filed as corrected.

Question 64 Physics

X-rays are widely used as a diagnostic tool in medicine because of its:

- A. Particle property
- B. Cost of X-ray unit is low
- C. High penetrating power ✓ **Correct answer**
- D. It is not electromagnetic waves

Question 65 Physics

To obtain greater dispersion by a diffraction grating:

- A. The slit width should be increased
- B. The slit width should be decreased
- C. The slit separation should be increased

slit separation should be decreased ✓ **Correct answer**

Question 66 Physics

The unit “henry” is equivalent to:

- A. Volt-second/ampere ✓ **Correct answer**
- B. Volt/second
- C. Ohm
- D. Ampere volt/ second

Question 67 English

Choose the word most similar in meaning to the capitalized word “OBLITERATE”:

- A. Offend
- B. Haul
- C. Rent
- D. Destroy ✓ **Correct answer**

Question 68 Chemistry

The compound Aldehyde hydrazone is:

- A. [structural formula — diagram in the source]
- B. [structural formula — diagram in the source]
- C. [structural formula — diagram in the source]
- D. [structural formula — diagram in the source]

No answer is given for this question, and none is taught. UNRECOVERABLE — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 69 Chemistry

Which is the correct IUPAC name of the compound given below? O = C – CH3

tophenon

- B. Phenylethanone ✓ **Correct answer**
- C. Phenyl ethanal
- D. Phenylacetate

Note: Note: The compound's structure is shown as a diagram in the source (the text layer shows only "O = C – CH3" — a phenyl ring attached to C(=O)CH3, i.e. acetophenone); its IUPAC name is phenylethanone (b).

Question 70 Chemistry

Chromium compounds in which oxidation state of chromium is 2 + behaves as a:

- A. Strong oxidizing agent
- B. Strong reducing agent ✓ **Correct answer**
- C. Very weak oxidizing agent
- D. Very weak reducing agent

Question 71 Chemistry

Primary amines on treatment with alkyl halide yield;

- A. Secondary amine
- B. Tertiary amine
- C. Quaternary ammonium salt
- D. Mixture of (a), (b) & (c) ✓ **Correct answer**

Note: Note: Options recovered from the text layer: (a) Secondary amine, (b) Tertiary amine, (c) Quaternary ammonium salt, (d) Mixture of (a), (b) & (c).

Question 72 Biology

D.N.A of bacterium is:

- A. Haploid, single stranded, coiled

old, double stranded, coiled

- C. Haploid, double stranded, coiled ✓ **Correct answer**
- D. Diploid, single stranded, coiled

Question 73 Biology

Chiroptera are:

- A. Flying mammals ✓ **Correct answer**
- B. Flesh eating mammals
- C. Hoofed mammals
- D. Aquatic mammals

Question 74 Biology

The swallowing process is regulated by:

- A. Throat
- B. Pharynx
- C. Medulla oblongata ✓ **Correct answer**
- D. Stomach

Question 75 Physics

A total charge of 100C flows through a 12W bulb in a time of 50 second. What is the potential difference across the bulb during this time?

- A. 0.12V
- B. 2.0V
- C. 6.0V ✓ **Correct answer**
- D. 24V

76 Physics

The total energy of a hydrogen atom in its ground state is:

- A. Zero
- B. Negative ✓ **Correct answer**
- C. Positive
- D. None of the above

Question 77 Physics

Becquerel is the unit of:

- A. Decay constant
- B. Half life
- C. Mean life
- D. Activity ✓ **Correct answer**

Question 78 English

The revolution in art has not lost its steam; it _____ on as fiercely as ever.

- A. Trudges
- B. Meanders
- C. Ambles
- D. Rages ✓ **Correct answer**

Note: Note: PRINTED-KEY CORRECTION: the key prints A ("Trudges") but "rages on as fiercely as ever" is the correct completion — "trudges" (to plod heavily) contradicts "fiercely"; the correct answer is (d).

Question 79 English

The principal has forbidden smoking on the campus. Select the correct passive voice:

- A. Smoking has been forbidden on the campus by the principal. ✓ **Correct answer**

- B. Smoking had been forbidden on the campus by the principal.
- C. Smoking was being forbidden on the campus by the principal.
- D. It is forbidden by the principal to smoke on campus.

Question 80 Chemistry

Choose reaction that does not require ZnCl catalyst:

- A. CH3CH2OH + HCl -> CH3CH2Cl + H2O
- B. CH3CH2OH + HBr -> CH3CH2Br + H2O
- C. CH3CH2OH + HI -> CH3CH2I + H2O
- D. Both (b) & (c) ✓ **Correct answer**

Note: Note: Option (c) prints "Hl" and "l" (the "I" renders as "l"); read as HI and I.

Question 81 Chemistry

Select the correct reaction of the following

- A. SnO + 4NaOH -> Sn(OH)4 + 2Na2O
- B. SnO + 4NaOH -> Na4Sn(OH)4
- C. SnO + 2NaOH -> Na2Sn(OH)4 ✓ **Correct answer**
- D. None of the above

Note: Note: The reactant is printed "SnO" (tin(II) oxide); the keyed (c) is the tetrahydroxostannate(II) product Na2Sn(OH)4.

Question 82 Chemistry

Choose the true statement regarding the reaction given below: 2Na(s) + Cl2(g) -> 2NaCl(s)

- A. Chloride is oxidized and sodium is reduced
- B. Chlorine acts as an oxidizing agent and sodium as reducing agent ✓ **Correct answer**

- D. None of the above

Note: Note: The stem's state symbols are garbled in the text layer; read as 2Na(s) + Cl2(g) -> 2NaCl(s). Option (c) is truncated in the source ("Chlorine acts as a reducing agent and ..."); filed as printed.

Question 83 Biology

World-wide, mortality rate per annum due to AIDS is more than:

- A. One million
- B. Two-million ✓ **Correct answer**
- C. Three million
- D. five-million

Question 84 Biology

"Portuguese - man of war" is the:

- A. Desert-snake
- B. Coelenterate ✓ **Correct answer**
- C. A big-reptile
- D. Black-forest monkey

Note: Note: PRINTED-KEY CORRECTION: the key prints C ("A big-reptile") but the Portuguese man of war is a coelenterate (Cnidaria, a siphonophore) — the correct answer is (b).

Question 85 Biology

Rootless, stem-less and leafless plants are:

- A. Liverworts ✓ **Correct answer**
- B. Mosses

- D. Onion

Question 86 Physics

The changing electric flux in a certain region of space produces:

- A. An electric field
- B. Magnetic field ✓ **Correct answer**
- C. Both electric and magnetic fields
- D. None of the above

Note: Note: Option (c) prints "both S // and A //" in the text layer (the field symbols render as PUA glyphs); read as "Both electric and magnetic fields".

Question 87 Chemistry

What are the values of principal quantum number and azimuthal quantum number for the last electron in Chlorine atom?

- A. 1.6
- B. 1.3
- C. 3.1 ✓ **Correct answer**
- D. 6.1

Note: Note: The options print as "1.6", "1.3", "3.1", "6.1" — these are (n, l) pairs with the comma rendered as a full stop; the keyed (c) is (3, 1) for the 3p electron of chlorine.

Question 88 Chemistry

Kp = Kc(RT)^Δn. In the equation, if Δn < 0 then:

- A. Kp = Kc
- B. Kp < Kc ✓ **Correct answer**
- C. Kp > Kc

Note: Note: The text layer renders Δn as a PUA glyph; read as Δn. Kp < Kc when Δn < 0.

Question 89 Biology

Amphibians generally have three chambers in their hearts. What type of chambers they are?

- A. One ventricle, one atrium, one outflow tract
- B. Two ventricles, one atrium
- C. One ventricle, one atrium
- D. One ventricle, one atrium, one sinus venous

No answer is given for this question, and none is taught. NO CORRECT OPTION — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 90 Biology

Release of calcium from bone in to blood is controlled by

- A. Parathormone ✓ **Correct answer**
- B. Calcitonin
- C. Thyroxine
- D. Both (a) & (b)

Question 91 Biology

That 1st field trial of genetically engineered plants occurred in France and USA in:

- A. 1980
- B. 1982
- C. 1984
- D. 1986 ✓ **Correct answer**

92 Physics

A laser beam can be sharply focused because it is:

- A. Highly coherent
- B. Plane polarized
- C. Intense
- D. Highly directional ✓ **Correct answer**

Question 93 Physics

A charged capacitor stores 10 C at 40 V. Its stored energy is:

- A. 400 J
- B. 4 J
- C. 0.2 J
- D. 200 J ✓ **Correct answer**

Question 94 Physics

A hydrogen atom that has lost its electron is moving east in a region where the magnetic field is directed from south to north. It will be deflected:

- A. Up ✓ **Correct answer**
- B. Down
- C. North
- D. South

Note: Note: The stem repeats "moving east in a region where the magnetic" (a duplication in the source); filed as corrected.

Question 95 English

Choose the word opposite in meaning to the capitalized word “TANGIBLE”:

- A. Embodied

ceptual ✓ **Correct answer**

- C. Phenomenal
- D. Verifiable

Question 96 Physics

The colour of thin films is a result of:

- A. Dispersion
- B. Absorption of light
- C. Scattering of light
- D. None of the above ✓ **Correct answer**

Question 97 English

Together the old man and the young boy washed the dishes. Select the correct passive voice:

- A. The old man and the young boy were washing the dishes together.
- B. The old man and the young boy together washed the dishes.
- C. The dishes were washed by the old man and the young boy together. ✓ **Correct answer**
- D. Together, the old man and the young boy wash the dishes.

Question 98 Chemistry

Shown below are portion of orbital diagrams representing the ground state electronic configuration of certain elements. Which of them obeys the Pau li’s exclusion principle? Hund’s rules?

- A. [option — not recoverable from the source]
- B. [option — not recoverable from the source]
- C. [option — not recoverable from the source]
- D. [option — not recoverable from the source]

s given for this question, and none is taught. TWO CORRECT OPTIONS — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 99 Chemistry

Chemical shift in NMR spectroscopy is expressed as delta (δ) or tau (τ) scale. Choose the correct relationship between δ and t:

- A. δ = 10 – τ
- B. δ = 10 + τ
- C. τ = δ – 10
- D. τ = 10 – δ

No answer is given for this question, and none is taught. TWO CORRECT OPTIONS — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 100 Chemistry

Choose the correct statement: DDT an insecticide is considered as:

- A. Very unstable molecule having half-life ½ to 1 year
- B. Unstable molecule having half-life 2 to 5 years
- C. Stable molecule having half-life 5 to 8 years
- D. Very stable molecule having half-life 10 to 15 years ✓ **Correct answer**

Question 101 Biology

Sense of taste is called:

- A. Gustation ✓ **Correct answer**
- B. Tactition
- C. Nociception
- D. Olfaction

102 Chemistry

Select meta directing group of the following?

- A. – OH
- B. – NR2
- C. – CN ✓ **Correct answer**
- D. – OR

Question 103 Chemistry

The osmotic pressure of dilute solution is given below by relationship:

- A. [formula — rendered as symbols in the source]
- B. [formula — rendered as symbols in the source]
- C. [formula — rendered as symbols in the source]
- D. [formula — rendered as symbols in the source]

No answer is given for this question, and none is taught. UNRECOVERABLE — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 104 Chemistry

Choose the one which is not the assumption of collision theory of reaction rate:

- A. For chemical reaction to occur molecule/particles must collide
- B. For reacting molecules/particles must possess a certain minimum amount of energy, the activation energy
- C. Every collision is not productive
- D. For hydrogen molecule formation from atoms require specific orientation ✓ **Correct answer**

Note: Note: Option (a) prints "colloids" (misprint for "collide") and option (b) prints "the activation of energy" (for "the activation energy"); filed as corrected.

105 Biology

Basidiocarps are developed by:

- A. Primary mycelium
- B. Secondary mycelium
- C. Tertiary mycelium ✓ **Correct answer**
- D. Quaternary mycelium

Question 106 Biology

Outer wall of guard cell is:

- A. Thick & elastic
- B. Thick & non elastic
- C. Thin & elastic ✓ **Correct answer**
- D. Thin & non elastic

Question 107 Biology

Eating of high carbohydrate food are signs and symptoms of:

- A. Obesity ✓ **Correct answer**
- B. Bulimia nervosa
- C. Dyspepsia
- D. Anorexia nervosa

Question 108 Physics

The frequency at which 1 henry inductor have reactance of 500 Ω is:

- A. 80Hz ✓ **Correct answer**
- B. 800Hz
- C. 8000Hz
- D. 50Hz

109 Physics

A neutron with K.E equal to 0.04ev is called?

- A. Slow neutron
- B. Thermal neutron
- C. Fast neutron
- D. Both (a) and (b) ✓ **Correct answer**

Question 110 Physics

Radiation damages living organism is primarily due to:

- A. Excitation phenomena
- B. Ionization ✓ **Correct answer**
- C. Photo electric effect
- D. Heating

Question 111 English

Communication technology has brought a tremendous revolution in modern societies.

Select the correct passive voice:

- A. A tremendous revolution has been brought in communication technology in modern societies. ✓ **Correct answer**
- B. In modern societies a tremendous revolutions has been brought in communication technology.
- C. A tremendous revolution has brought in communication technology in modern societies
- D. Communication technology has tremendous revolution brought in modern societies

112 Chemistry

pKa values of some acids are given below: Choose the weaker acid?

- A. HClO4 (-10)
- B. HBr (-9)
- C. H2SO4 (-3) ✓ **Correct answer**
- D. HCl (-7)

Note: Note: The pKa values are the paper's (HClO4 -10, HBr -9, H2SO4 -3, HCl -7); the weakest acid is H2SO4 (c).

Question 113 Chemistry

The water formed in the combustion analysis is usually absorbed by:

- A. Mg(NO3)2
- B. Mg(ClO4)2 ✓ **Correct answer**
- C. Mg(OH)2
- D. Mg(ClO)2

Question 114 Chemistry

When small amount of ammonia is added to CuSO4 solution in water, blue ppt of [Cu(H2O)4(OH)2] is formed. The blue ppt dissolves on addition of excess of ammonia. The product formed is:

- A. [Cu(H2O)2(NH3)2(OH)2]
- B. [Cu(NH3)4(OH)2]
- C. [Cu(NH3)4(H2O)2]2+ ✓ **Correct answer**
- D. [Cu(NH3)3(H2O)3]2+

Question 115 Biology

In case of immunity, the first line of body defense is:

- B. Lymphocytes
- C. Blood cells
- D. Skin ✓ **Correct answer**

Question 116 Biology

Transport of organic solutes from the source of assimilation to the source of sink is:

- A. Transportation
- B. Transduction
- C. Translocation ✓ **Correct answer**
- D. Transformation

Question 117 Biology

The percentage of symbiotic association by Ascomycota is more than:

- A. 50%
- B. 40% ✓ **Correct answer**
- C. 20%
- D. 30%

Note: Note: The stem prints "symbolic" (misprint for "symbiotic"); filed as corrected.

Question 118 Physics

A vector of magnitude 20 is added to a vector of magnitude 25. The magnitude of this sum might be:

- A. Zero
- B. 3
- C. 12 ✓ **Correct answer**
- D. 47

119 Chemistry

Graphite is one of the allotropic form of Carbon it is:

- A. Isotropic
- B. Anisotropic ✓ **Correct answer**
- C. Bond conductor of electricity
- D. Both (b) & (c)

Note: Note: Option (c) prints "Bond conductor of electricity" (apparent misprint for "Good conductor"); filed as printed. The keyed answer is (b) Anisotropic.

Question 120 Biology

Delayed wound healing is caused by deficiency of:

- A. Zn ✓ **Correct answer**
- B. Fe
- C. Co
- D. Mn

Question 121 Chemistry

If one Faraday was to be 30,230 coulombs instead of 96,500 coulombs then charge on an electron is:

- A. 1.5 x 10-19 C
- B. 1 x 10-19 C
- C. 0.5 x 10-19 C ✓ **Correct answer**
- D. 6.02 x 10-19 C

Question 122 Biology

Which of the following statements is correct?

- A. Antipyretic drugs lower the temperature set point ✓ **Correct answer**

pyretic drugs rise the temperature set point

- C. Antipyretic drugs do not effect on temperature set point
- D. Antipyretic drugs first lower the temperature set point and then rise

Question 123 Biology

Which of the following is correct about speed of nerve impulse:

- A. Thicker the nerve fiber-less resistance to flow of current-faster the nerve impulse. ✓ **Correct answer**
- B. Thicker the nerve fiber-more resistance to flow of current-slower the nerve impulse
- C. Thinner the nerve fiber-less resistance to flow of current-slower the nerve impulse
- D. None of the above

Question 124 Biology

Archaea live in both extreme and moderate environments those living in extreme condition are called:

- A. Extremophile ✓ **Correct answer**
- B. Methanogens
- C. Extremophyte
- D. Extremogeus

Note: Note: Option (b) prints "Methanogeus" (misprint for "Methanogens"); filed as corrected. Option (d) prints "Extremogeus" (a garble); filed as printed.

Question 125 Physics

In a cricket match 500 spectators are counted one by one. How many significant figures will be there in the final result?

- A. 0

- C. 2
- D. 3 ✓ **Correct answer**

Question 126 Physics

The time period of a simple pendulum is 2 seconds. If its length is increased by 4 times, then its period becomes:

- A. 16 s
- B. 12 s
- C. 8 s
- D. 4 s ✓ **Correct answer**

Question 127 Physics

A moving charged particle is surrounded by ___ fields

- A. 1 fields
- B. 3 fields
- C. 2 fields ✓ **Correct answer**
- D. 4 fields

Note: Note: The stem prints "surroundes ??" in the text layer; read as "is surrounded by ___ fields". The keyed answer is (c) 2 fields.

Question 128 Physics

Water flows from a 6.0cm diameter pipe into 8.0cm diameter pipe. The speed in the 6.0cm pipe is 5.0m/s. the speed in the 8cm pipe is:

- A. 2.8m/s ✓ **Correct answer**
- B. 3.7m/s
- C. 6.6m/s
- D. 8.8m/s

129 English

I insist _____ the withdrawal of your statement.

- A. for
- B. on ✓ **Correct answer**
- C. at
- D. in

Question 130 Chemistry

In the CH3CH2C≡CH + H2O -> ?

- A. CH3CHO + CH3CHO
- B. CH3CH2CH2CH2-OH
- C. CH3CH2CH2COOH
- D. CH3CH2COCH3 ✓ **Correct answer**

Note: Note: The hydration of 1-butyne under HgSO4/H2SO4 gives butan-2-one (d).

Question 131 Physics

The infrared spectra commonly referred to as IR spectra is usually expressed as:

- A. Wave length ✓ **Correct answer**
- B. Wave number
- C. Frequency
- D. All of the above

Question 132 Chemistry

Which statement is correct for three way catalytic converter:

- A. Reduces emission of unburnt HC’ s
- B. Reduces pollutants
- C. Oxidize pollutant like CO

of the above ✓ **Correct answer**

Question 133 Biology

Which of the following are components of homeostatic mechanism;

- A. Receptor, Regulators, Effectors
- B. Receptors, Integrator, Effectors
- C. Sensors, Brain, Effectors
- D. All of the above ✓ **Correct answer**

Question 134 Biology

The botanical name of deadly nightshade is:

- A. Atropa belladonna ✓ **Correct answer**
- B. Taxus baccata
- C. Narcissus spp
- D. Both (a) & (b)

Question 135 Biology

Hormone inhibin is produced by:

- A. Hypothalamus
- B. Pituitary gland
- C. Prostate
- D. Sertoli cells ✓ **Correct answer**

Note: Note: Option (c) prints "Prostrate" (misprint for "Prostate"); filed as corrected.

Question 136 Physics

A particle, held by a string whose other end is attached to a fixed point C, moves in a circle on a horizontal frictionless surface. If the string is cut, the angular momentum of

about the point. C.

- A. Increases
- B. Decreases
- C. Does not change ✓ **Correct answer**
- D. Changes direction but not magnitude

Question 137 Physics

An electron has charge-e- and mass m. A proton has charge e and mass 1840m. A “Proton volt” is equal to:

- A. 1 eV ✓ **Correct answer**
- B. 1840 eV
- C. (1/1840) eV

Note: Note: Option (d) is blank in the source; option (b) carries a stray "√1840" fragment in the text layer, omitted.

Question 138 Physics

The rotational inertia of a disk about its axis is 0.70 Kg. m2. When a 2.0-kg weight is added to itsrim, 0.40m from the axis, the rotational inertia becomes:

- A. 0.38 Kg – m 2
- B. 0.54 kg – m 2
- C. 0.86 kg – m 2 ✓ **Correct answer**
- D. 1.0 kg – m 2

Question 139 English

As you have not prepared your work, ...

- A. You may not fail in the examination
- B. You could prepare harder next time

would do better in the examination

- D. You are not likely to do well this time ✓ **Correct answer**

Question 140 Physics

Which of the following is closest to a yard:

- A. 0.01 m
- B. 0.1 m
- C. 1 m ✓ **Correct answer**
- D. 100 m

Question 141 Physics

You stand on a spring scale on the floor of an elevator. Of the following, the scale shows the highest reading when the elevator:

- A. Moves upward with increasing speed ✓ **Correct answer**
- B. Moves upward with decreasing speed
- C. Remains stationary
- D. Moves downward with increasing speed

Question 142 Physics

A wheel starts from rest and has an angular acceleration of 4.0 rad/s^2. When it has made 10 rev its angular velocity is:

- A. 16 rad/s
- B. 22 rad/s ✓ **Correct answer**
- C. 32 rad/s
- D. 250 rad/s

143 English

Choose the word opposite in meaning to the capitalized word “ANARCHIC”:

- A. Riotous
- B. Turbulent
- C. Disordered
- D. Organized ✓ **Correct answer**

Question 144 Chemistry

The electronic transition that is involved in the visible region is:

- A. [transition symbol — rendered as glyphs in the source]
- B. [transition symbol — rendered as glyphs in the source]
- C. [transition symbol — rendered as glyphs in the source]
- D. [transition symbol — rendered as glyphs in the source]

No answer is given for this question, and none is taught. UNRECOVERABLE — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 145 Chemistry

A water sample contains 3.8 x 10-3 g of mercury per kilogram of the sample. What is the concentration of mercury in parts per million?

- A. 3.8 ppm ✓ **Correct answer**
- B. 38 ppm
- C. 0.38 ppm
- D. 380 ppm

Note: Note: The stem prints "10 3" (the minus sign is lost in the text layer; the keyed answer 3.8 ppm requires 10-3 g per kg).

146 Chemistry

Select the reaction when the supply of air is very limited.

- A. CH4 + 2O2 -> CO + 2H2O + heat
- B. 2CH4 + 3O2 -> 2CO + 4H2O + heat
- C. CH3-CH3 + 7O2 -> CO + 6H2O + heat
- D. 2CH4 + 2O2 -> 2C + 4H2O + heat ✓ **Correct answer**

Note: Note: Options (a) and (c) as printed are unbalanced (the paper's misprints); the keyed (d) is the balanced soot reaction for a very limited air supply.

Question 147 Biology

All of the following are micronutrients except

- A. Iron
- B. Chlorine
- C. Copper
- D. Potassium ✓ **Correct answer**

Note: Note: The stem prints "accept" (misprint for "except"); filed as corrected.

Question 148 Biology

Auxin travels by diffusion towards:

- A. Shoot
- B. Flowers
- C. Leaves
- D. Base of plant ✓ **Correct answer**

Question 149 Biology

Reptiles flourished in _____ period.

ssic

- B. Mesozoic ✓ **Correct answer**
- C. Metazolc
- D. Both (a) & (b)

Note: Note: Option (c) prints "Metazolc" (misprint of "Mesozoic", duplicating (b)); filed as printed.

Question 150 Physics

Signal from a remote control to the device operated by it, travels with the speed of:

- A. Sound
- B. Supersonic
- C. Ultrasonic
- D. Light ✓ **Correct answer**

Question 151 English

'Frown on somebody' means to:

- A. Fall flat upon a stranger
- B. Stay alive working hard
- C. Unable to be successful
- D. Disapprove of somebody ✓ **Correct answer**

Question 152 Chemistry

The main components of lipstick are:

- A. Mixture of non-volatile oil and solid wax ✓ **Correct answer**
- B. Mixture of volatile oil and wax
- C. Fats and wax
- D. Fats, oil and wax

Option (d) prints "Fates" (misprint for "Fats"); filed as corrected.

Question 153 Chemistry

Which of the following solution will have

- A. 1 molar solution of urea
- B. 1 molar solution of glucose
- C. 1 molar solution of sodium chloride
- D. 1 molar solution of magnesium chloride

No answer is given for this question, and none is taught. DEFECTIVE-excluded — no answer asserted (decided by assistant under owner's 8 Nov 2026 delegation)

Question 154 Physics

The spin states of a nucleus of an atom in absence of applied magnetic field have:

- A. Different energies
- B. Equal energies ✓ **Correct answer**
- C. Zero energies
- D. High energies

Question 155 Biology

The Sulphur Bacteria which obtain energy by oxidizing H2S instead of water is called:

- A. Alpha proteobacteria
- B. Beta proteobacteria
- C. Gamma proteobacteria ✓ **Correct answer**
- D. Gamma proteobacteria

Note: Note: Options (c) and (d) both print "Gamma proteobacteria"; filed as printed.

156 Biology

Which of the following is non-steroidal hormone?

- A. Cortisol
- B. Testosterone
- C. Insulin ✓ **Correct answer**
- D. Aldosterone

Question 157 Biology

Stop codons are:

- A. UAA,UAG,UGA ✓ **Correct answer**
- B. UGC,UCG,AAA
- C. UUG,UCG,UCA
- D. UAA,UGC,UCA

Question 158 Physics

Which of the following electromagnetic waves has the smallest wavelength?

- A. X-rays
- B. Gamma rays ✓ **Correct answer**
- C. Microwaves
- D. Ultraviolet rays

Note: Note: PRINTED-KEY CORRECTION: the key prints C ("Microwaves") but gamma rays have the smallest wavelength of all electromagnetic waves — microwaves have the longest wavelength of the four options; the correct answer is (b).

Question 159 Physics

The temperature coefficient of resistance of a semiconductor is:

- A. Positive

- C. Imaginary
- D. Zero

Question 160 Physics

The ground state energy of H-atom is 13.6 eV. The energy needed to ionize H-atom from its second excited state is:

- A. 1.51 eV ✓ **Correct answer**
- B. 3.4 eV
- C. 13.6 eV
- D. 12.1 eV

Note: Note: The stem prints "lonize" (misprint for "ionize"); filed as corrected.

Question 161 Biology

The tissue culture method occur in the following sequence:

- A. Sterilization -> media preparation -> inoculation -> callus development -> plantlets ✓ **Correct answer**
- B. Media preparation -> sterilization -> inoculation -> callus development -> plantlets
- C. Media preparation -> inoculation -> sterilization -> callus development -> plantlets
- D. Inoculation -> sterilization -> media preparation -> callus development -> plantlets

Question 162 Biology

A condition in which the artery is thickened and blocked by cholesterol is called.

- A. Arteriosclerosis
- B. Atherosclerosis ✓ **Correct answer**
- C. Thrombosis
- D. Embolism

163 Physics

The path traced by α particles in air is:

- A. Straight
- B. Erratic ✓ **Correct answer**
- C. Circular
- D. Elliptical

Question 164 Physics

Angle that a body traverses at the centre of a circle in two turns is:

- A. 4 π Rads
- B. 720°
- C. 12.6 Rads
- D. All of the above ✓ **Correct answer**

Question 165 Physics

Two tuning forks of frequencies 256Hz and 260Hz are sounded together the time interval between two consecutive maximum sound heard by a listener is:

- A. 0.5 Sec
- B. 2 Sec
- C. 1 Sec
- D. 0.25 Sec ✓ **Correct answer**

Question 166 English

Choose the word most similar in meaning to the capitalized word “PRODIGIOUS”:

- A. Enormous ✓ **Correct answer**
- B. Sacred
- C. Seismic

Question 167 Biology

Oligosaccharides are involved in the formation of:

- A. Secreted proteins
- B. Blood clotting factors
- C. Anti-bodies
- D. All of the above ✓ **Correct answer**

Question 168 Chemistry

The hydrolysis of Alkyl nitriles in the presence of acid form:

- A. RCONH2
- B. RCH2NH2
- C. RCONH2
- D. RCOOH ✓ **Correct answer**

Note: Note: A diazotization scheme (R-C≡N + NaNO2/HCl) is printed above the stem in the source; the options answer the hydrolysis stem. Options (a) and (c) both print RCONH2; filed as printed.

Question 169 Physics

If p is a pressure and δ is a density then p/δ has units of:

- A. m2/s2 ✓ **Correct answer**
- B. N/m2
- C. Kg/m2
- D. m3/Kg

170 Physics

Intrinsic semi-conductor can be converted into extrinsic semi-conductor by adding:

- A. Trivalent impurity
- B. Pentavalent impurity
- C. Pentavalent or trivalent impurities ✓ **Correct answer**
- D. None of the above

Question 171 Physics

A 30-cm long string, with one end clamped and the other free to move transversely, is vibrating in its second harmonic. The wavelength of the constituent traveling waves is:

- A. 10 cm
- B. 30 cm
- C. 40 cm ✓ **Correct answer**
- D. 120 cm

Question 172 English

If you like sport, this is a great place. There’s a lot to choose _____.

- A. Among
- B. From ✓ **Correct answer**
- C. At
- D. For

Note: Note: A five-glyph fragment ("[?]oles") follows option (d) in the text layer; it belongs to no option of this question and is omitted.

Question 173 Chemistry

What is the concentration of nitric acid solution having pH of 4?

- A. 4

- C. 10-4 ✓ **Correct answer**
- D. 10-10

Note: Note: The stem renders "[H+]" as PUA glyphs in the text layer; read as H+ ions. The keyed answer is (c) 10-4 mol/L.

Question 174 Chemistry

Ethoxy ethane when treated with conc. H2SO4, it produces:

- A. Carbocation
- B. Oxonium ion ✓ **Correct answer**
- C. Carbanion
- D. Oxalate ion

Question 175 Chemistry

A cell is constructed of the following two half cells. What is E° of the cell? Ag+ + e- ⇌ Ag, E° = +0.80 V; Al3+ + 3e- ⇌ Al, E° = −1.67 V

- A. 2.47 V ✓ **Correct answer**
- B. 0.087 V
- C. – 0.87 V
- D. 5.81 V

Note: Note: The stem's half-cell equations are garbled in the text layer; read as Ag+ + e- ⇌ Ag (E° = +0.80 V) and Al3+ + 3e- ⇌ Al (E° = −1.67 V). E°(cell) = 0.80 − (−1.67) = 2.47 V (a).

Question 176 Biology

A slowly progressive disease of the brain that is characterized by the impairment of memory and eventually by disturbance in reasoning, planning, language and perception is one of the following?

- lzheimer's disease ✓ **Correct answer**
- B. Meningitis
- C. Cerebrovascular accident
- D. Malignant

Note: Note: Option (d) prints "Malignant" followed by stray glyphs in the text layer; filed as "Malignant".

Question 177 Physics

If A·B = 1, |A| = 2 and |B| = 1, then the angle between them is:

- A. 30°
- B. 60° ✓ **Correct answer**
- C. 90°
- D. 45°

Note: Note: The stem renders the vectors as PUA glyphs; read as: if A·B = 1, |A| = 2 and |B| = 1, the angle is 60° (b).

Question 178 Physics

An object of mass 1 g is whirled in a horizontal circle of radius 0.5m at a constant speed of 2m/s. The work done on the object during one revolution is:

- A. 0 ✓ **Correct answer**
- B. 1 J
- C. 2 J
- D. 4 J

Question 179 English

The candidate _____ when asked why he had left his last job; he did not want to admit that he had been dismissed.

- B. Confided
- C. Dissembled ✓ **Correct answer**
- D. Rejoiced

Question 180 Chemistry

What is the formula of Dichloro-Bis-ethylenediamine cobalt (II)?

- A. [Co(en)2Cl2] ✓ **Correct answer**
- B. [Co(en)2Cl2]2-
- C. [Co(en)2Cl2]1-
- D. [Co(en)2Cl2]1+

Note: Note: The source prints "CO" for cobalt and "(ebn)" in option (c); read as Co and (en).

Question 181 Chemistry

Lithium reacts with air to form:

- A. Li2O
- B. Li3N
- C. Li2O2 + Li2CO3
- D. Both (a) & (b) ✓ **Correct answer**

Note: Filed option B read "Li2N" (misprint in the source reproduction); corrected to "Li3N" as documented in the reviewed file.

Question 182 Chemistry

What will be the shape of a molecule which contains two sigma bond pairs and one lone pair?

- A. Linear
- B. V shape ✓ **Correct answer**

- D. Triangular

Question 183 Biology

The most abundant lymphocytes are:

- A. C – cells
- B. A & B cells
- C. B & C cells
- D. B & T cells ✓ **Correct answer**

Question 184 Biology

The number of cortical nephrons are:

- A. 70 – 80% ✓ **Correct answer**
- B. 80 – 90%
- C. 60 – 70%
- D. 60 – 80%

Note: Note: Textbook figures vary (cortical nephrons are usually given as 80-85%); the paper keys (a) 70-80%.

Question 185 Biology

The outer tissue of cambium develops in to:

- A. Xylem
- B. Phloem ✓ **Correct answer**
- C. Cortex
- D. Epidermis

186 Physics

A mass accelerates uniformly when the resultant force acting on it is:

- A. Zero
- B. Constant but not zero ✓ **Correct answer**
- C. Increases uniformly with respect to time
- D. Both (a) & (c)

Question 187 Biology

The 1st symptom of Leaf curl disease of cotton infection appear within:

- A. 1 – 2 weeks
- B. 2 – 3 weeks ✓ **Correct answer**
- C. 3 – 4 weeks
- D. 4 – 5 weeks

Question 188 Biology

The mutation that occurs in an egg or sperm cell, or those that occur just after fertilization, are called _____ mutation.

- A. New
- B. De novo
- C. Drift
- D. Both (a) & (b) ✓ **Correct answer**

Question 189 Physics

In Young's double slit experiment both the separation between the slits and the distance between the slits and the screen are halved; then the fringe width is:

- A. Halved
- B. Unchanged ✓ **Correct answer**

- D. Zero

Note: Note: Option (d) prints "Zeros" (misprint for "Zero"); filed as corrected.

Question 190 Physics

In pure inductance, the average power dissipated is:

- A. 1
- B. Greater than 1
- C. Less than 1
- D. Zero ✓ **Correct answer**

Question 191 Physics

As a loop of wire with a resistance of 10 Ω moves in a constant non-uniform magnetic field, it loses kinetic energy at a uniform rate of 4.0 mJ/s. The induced current in the loop is:

- A. 0
- B. 2 mA
- C. 2.8 mA
- D. 20 mA ✓ **Correct answer**

Note: Note: The stem prints "4.0 ms/s" (read as 4.0 mJ/s — the power loss rate). I = sqrt(P/R) = sqrt(4x10-3/10) = 20 mA (d).

Question 192 English

Choose the correct sentence

- A. Turn left by the crossroads when you reach it
- B. Turn left by the crossroads until you reach it.
- C. Turn left with the crossroads when you reach it.

n left at the crossroads when you reach it. ✓ **Correct answer**

Question 193 Chemistry

Which of the following electronic configuration is / are correct? (i) 23Na 1s2 2s2 2p6 3s1 (ii) 29Cu [Ar] 4s1 3d10 (iii) 24Cr [Ar] 4s2 3d4

- A. I only
- B. I and III only
- C. I and II only ✓ **Correct answer**
- D. II and III only

Note: Note: The text layer renders the subshell letters in uppercase ("1S2", "2P6"); read as 1s2, 2p6 etc. (iii) as printed is the incorrect chromium configuration (the correct one is [Ar] 4s1 3d5), which is why the answer is (c) I and II only.

Question 194 Chemistry

Which of the following is spontaneous reaction?

- A. Zn + Cu2+ -> Zn2+ + Cu ✓ **Correct answer**
- B. 2NaCl -> 2Na + Cl2
- C. Zn2+ + Cu -> Zn + Cu2+
- D. 2Fe(OH)3 -> 2Fe + 3O2 + 3H2

Note: Note: Option (b)'s state symbols are garbled in the text layer ("(g) (g) 2(g)"); filed without them.

Question 195 Physics

Two objects, P and Q have the same momentum. Q has more kinetic energy than P if it:

- A. Weighs more than P
- B. Is moving faster than P ✓ **Correct answer**
- C. Weighs the same as P

Question 196 Physics

A child, riding on a large merry-go-round, travels a distance of 3000m in a circle of diameter 40m. the total angle through which she revolves is:

- A. 50 rad
- B. 75 rad
- C. 150 rad ✓ **Correct answer**
- D. 314 rad

Note: Note: Option (a) prints "SO rad" (the "5" renders as "S" and "0" as "O"); read as 50 rad.

Question 197 English

Anwar said, “Naveed must go tomorrow”. Select the correct indirect speech:

- A. Anwar declared that Naveed must have gone the following day
- B. Anwar exclaimed that Naveed would have to go the following day.
- C. Anwar said that Naveed would have to go the following day. ✓ **Correct answer**
- D. Anwar said that Naveed shall go the following day.

Note: Note: PRINTED-KEY CORRECTION: the key prints A but "Naveed must go tomorrow" becomes "would have to go the following day" in indirect speech — "must have gone" is a past deduction, not a future obligation; the correct answer is (c).

Question 198 Chemistry

Choose atom that is not having a spin quantum number 1/2.

- A. C13
- B. N15
- C. F19

; ✓ Correct answer

Note: Note: The spin quantum number is rendered as a PUA glyph in the text layer; read as 1/2. 16O has nuclear spin 0 (d).

Question 199 Chemistry

Select the correct reaction.

- A. [reaction scheme — diagram in the source]
- B. [reaction scheme — diagram in the source]
- C. [reaction scheme — diagram in the source]
- D. [reaction scheme — diagram in the source]

No answer is given for this question, and none is taught. UNRECOVERABLE — DEFECTIVE-excluded (decided by assistant under owner's 8 Nov 2026 delegation)

Question 200 Chemistry

Excess of BaSO4 was dissolved in pure water at 25°C. If its Ksp = 1 x 10-10, what is the concentration of Ba2+ ions in water?

- A. 10-10
- B. 10-20
- C. 10-5 ✓ **Correct answer**
- D. 10-6

Note: Note: The stem prints "25 0 C" and "itsKsp"/"Conc:" (spacing/typesetting slips). [Ba2+] = sqrt(Ksp) = 10-5 (c).

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