ADAMJEE GOVT. SCIENCE COLLEGE

PRELIMINARY EXAMINATION– 2026

(BOTANY PAPER – I)

Time: 15 minutes | **SECTION 'A'** | **Max Marks: 45**

(Multiple Choice Questions) – (M.C.Qs) | **Marks: 09**

Note: i. This section consists of 18 part questions and all are to be answered. Each question carries ½ mark.
ii. Do not copy the part questions in your answer book. Write only the answer in full against the proper number of the question and its part.

Q.1 Choose the correct answer for each from the given option:

i. Isomorphic Alternation of Generation found in
*Ulva *Fern *Gymnosperm *Moss

ii. If a tuft of flagella is present only at one pole, it is known as:
*Atrichous *Lophotrichous *Peritrichous *Amphitrichous

iii. Energy is required for.
*Active transport * Diffusion *Osmosis *Facilitated diffusion

iv. Which one is a membrane bound organelles
* Vacuole * Mitochondria * Ribosome * Centriole

v. Alternate mechanism of Co_2 fixation during the dark reaction occurs in
* C4 plants * C3 plants * C6 plants * C5 plants

vi. Rice belongs to the family:
* Poaceae * Solanaceae * Rosaceae * Fabaceae

vii. Kreb's cycle is also called
*Acetyl CoA *Pyruvic acid *Lactic acid *TCA

viii. Lycopsida are commonly known as
* Club mosses * Horse tail * Ferns * Seed Mosses plant

ix. Organelle that releases ATP is:
* Ribosome * Mitochondria * Chloroplast * Golgi bodies

x. The excess of water in plant is forced out in the form of droplet through
* Cuticle * Stomata * Lenticle * Hydathodes

xi. The multinucleate mycelium is called
*Coenocytic * Lichen * Yeast * Septate

xii. In Mosses protection of reproductive cell by hair like structure takes place by:
* Paraphysis * Anthridia * Integument * Protonema

xiii. Viruses are
*Cellular *Non cellular *Multi cellular *Prokaryote

xiv. Organism depend upon dead organic matter:
* Saprophytes *Autotrophs *Photosynthetic *Symbionts

xv. Gymnosperms are characterized by
*Naked seed *Winged seed *Seed inside fruit *Broad leaves

xvi. Aids is caused by
* Retro virus * Rhabdo virus * Rhino virus * Arbo virus

xvii. One of the most primitive vascular plant is
* Rhynia * Psilotum * Selaginella * Adiantum

xviii. Heterocyst present in
* Bacteria *Cynobacteria * Fungi * Algae

ADAMJEE GOVT. SCIENCE COLLEGE

PRELIMINARY EXAMINATION– 2026

Time: 1hour 45 minutes **(BOTANY PAPER – I)**

SECTION 'B'

Short-Answer Questions) (18 Marks)

Q. 2: Answer any nine part questions. Each question carries one mark. Answer should not exceed more than two sentences.

i. Name any four diseases caused by viruses.

ii. Why are spermatophytes success full in land habitats?

iii. Which pathogen causes late blight of potato?

iv. Why are deuteromycota called imperfect fungi?

v. Briefly describe the role of Nitrogen and Potassium in Plants?

vi. Why is Photorespiration considered a wasteful process?

vii. Write the modes of transmission of the HIV virus.

viii. Why is protoctista considered a polyphyletic kingdom?

ix. Name three Lysosomal storage diseases.

x. Define the followings:

a. Double Fertilization b) Heterospory

xi. Write botanical names of any four of the following:

a) Wheat b) Mako c) Barley d) Rice e) Amaltas f) Mulhethi

SECTION 'C'

(Detailed–Answer Questions) (18 Marks)

Note: Answer any two questions from this part. All questions carry equal marks.

Q.2. Describe the life cycle of Moss or Fern with reference to alternation of generations.

Q.3. Explain the break down process of glucose into pyruvate with the help of a flow chart.

OR

Describe the mechanism of light reaction of photosynthesis.

Q.4. Describe the structure and shapes of bacteria with a well labelled diagram.

OR

What is Translocation? Explain it with the help of pressure flow hypothesis.

ADAMJEE GOVT. SCIENCE COLLEGE

PRELIMINARY EXAMINATION - 2026

Time: 3 Hours — **CHEMISTRY– I** — **Max. Marks: 85**

SECTION-A

Max. Marks: 17 — (MULTIPLE CHOICE QUESTIONS) — Time: 20 minutes

NOTE: i) This section consists of 17 part questions and all are to be answered. Each part question carries one mark.

Q1. Choose the correct answer for each from the given options:

1. Cooling appliances like air conditioners and refrigerators are working on the principle of:
   *Common ion effect *Joule-Thomson effect
   *Pauli's exclusion principle *Le-Chatelier's principle

2. The hybridization of carbon in C_2H_4 molecule is:
   *sp^3 *sp^2 *sp *dsp^2

3. The unit of rate constant for the zero order reaction is:
   *Ms^{-1} *s^{-1} *$M^{-1}s^{-1}$ *$M^{-2}s^{-1}$

4. Parts per trillion means:
   *10^3 *10^6 *10^9 *10^{12}

5. If theoretical yield of a compound is 20 g, its actual yield= 16 g, then % yield of compound is:
   *80% *60% *100% *16%

6. NH_3 is prepared by the reaction $N_2 + 3H_2 \leftrightarrow 2NH_3$ ($\Delta H = -ve$), the maximum yield of NH_3 obtained is:
   *At low temperature and high pressure *At high temperature and low pressure
   *At high temperature and high pressure *At low temperature and low pressure

7. This is not a state function:
   *Internal energy *Enthalpy *Temperature *Work

8. Which of the following is not a Buffer solution?
   *CH_3COOH / CH_3COONa *Na_2CO_3 / $NaHCO_3$
   *NH_4OH / NH_4Cl *NaOH / HCl

9. The highest bond energy in the following is:
   *Cl – Cl *H – F *H – O *H – N

10. Diamond is the example of:
    *Ionic solid *covalent solid *metallic solid *molecular solid

11. Least entropy found in which of the following state of water:
    *Liquid water at 4° C *Liquid water at 25°C *Steam at 100° C *Ice at 0°C

12. Galvanized rod of iron is coated with:
    *Nickel *Zinc *Chromium *Carbon

13. How many moles of NaOH are present in a $2dm^3$ of 1 molar aqueous solution of it?
    *0.5 mole *1 mole *1.5 mole * 2 mole

14. The number of carbon atoms in 1 mole of sugar ($C_{12}H_{22}O_{11}$) are approximately:
    *6×10^{23} *24×10^{23} *12.04×10^{23} *7.224×10^{24}

15. Which of the following is not an iso electronic pair?
    *$Na^+ and Ne$ *$Na^+ and F^-$ *$Na\ and\ Ca$ *$Na^+ and\ Mg^{+2}$

16. The correct relation between Debye and coulomb meter is:
    *1D = 3.33×10^{-30} Cm *1D = 1.6×10^{-19} Cm * ID = 1.88×10^{-12} Cm *1D = 1.23×10^{-8} Cm

17. In NaCl, each Na^+ ion is surrounded by Cl^- ions in the numbers:
    *Four *three *Six *seven

SECTION 'B'

(SHORT-ANSWER QUESTIONS) Marks : 36

Q2. Answer any Nine part questions. All part questions carry equal marks

i. Define any four the following:

* Absolute zero
* Boiling point
* Limiting reactant
* Electrode Potential
* Latent heat of fusion

OR Differentiate any two of the following:

* Crystalline solid and amorphous solid
* Electrolytic cell and Electrochemical cell
* Lines spectrum and Continuous spectrum
* σ – bond and π bond

ii. Mass of 49 g of solid potassium chlorate ($KClO_3$) on heating decomposes completely to potassium chloride (KCl) with the liberation of oxygen gas (O_2). $2KClO_{3(s)} \xrightarrow{Heat} 2KCl_{(s)} + 3O_{2(g)}$. Determine volume of oxygen gas O_2 liberated at STP.

iii. State $n + l$ and Hunds rule write electronic configuration of the following:

* Cl^- (Z= 17)
* Cu (Z = 29)

iv. Draw a molecular orbital diagram of N_2 molecule and write down molecular orbital electronic configuration of N_2.

v. What is hydrogen bond? How is it established give its three applications industry and bio-chemical process

OR Define unit cell. How can you determine the number of Na^+ and Cl^- ions in one-unit cell of sodium chloride (NaCl)?

vi. A solution is made by dissolving 14.8 g HCl in water at 25 C. If the volume of solution is 750 cm^3 and HCl is assumed to be completely ionized, calculate its pH.

OR Automotive antifreeze is a 60% (w/w) aqueous solution of ethylene glycol ($C_2H_6O_2$). Determine (a) molality of solution (b) mole fraction of ethylene glycol in the solution.

vii. Define rate law. Enlist five factors which influence the rate of chemical reaction and describe the effect of surface area and concentration of reactants on reaction rate.

viii. The reaction of methane with hydrogen sulphide give carbon disulphide.

$$CH_{4(g)} + 2H_2S_{(g)} \leftrightarrow CS_{2(g)} + 4H_{2(g)}$$

If Kc for this reaction at 727°C is 4.2×10^{-3}, Calculate its Kp.

OR The rate constant (k) for the decomposition of NO_2 is 1.8×10^{-3} dm^3 mol^{-1} s^{-1}.

$$2NO_2 \rightarrow 2NO + O_2$$

* Write the rate expression.
* Find the initial rate when the initial concentration of NO_2 is 0.75 mol dm^{-3}.
* Find the value of the rate constant when the initial concentration of NO_2 is doubled.

ix. Oxygen gas is produced by heating potassium nitrate $2KNO_3 \rightarrow 2KNO_2 + O_2$
The gas is collected over water. If 225 cm^3 of gas is collected at 25° C and 785 mm Hg total pressure, what is the mass of O_2 gas collected? (Pressure of vapours at 25° C is 23.8 mm Hg)

OR State Graham's law of diffusion. The rate of diffusion of an unknown gas is 70.3 cm^3/s whereas CO_2 is 60 cm^3/s under similar conditions. What is the molecular mass and identity of the unknown gas?

x. Glycerol ($C_3H_8O_3$) is a well known organic compound due to its versatile uses. Calculate the standard enthalpy of formation of Glycerol form the data given below.

$$3C_{(s)} + 4H_{2(g)} + \frac{3}{2}O_{2(g)} \rightarrow C_3H_8O_{3(l)} \qquad (\Delta H_f^o = ?)$$

$$C_{(s)} + O_{2(g)} \rightarrow CO_{2(g)} \qquad (\Delta H^o = -393.5\ KJ/mol)$$

$$H_{2(g)} + \frac{1}{2}O_{2(g)} \rightarrow H_2O_{(l)} \qquad (\Delta H^o = -285.8\ KJ/mol)$$

$$C_3H_8O_{3(l)} + 3\frac{1}{2}O_{2(g)} \rightarrow 3CO_{2(g)} + 4H_2O_{(l)} \qquad (\Delta H^o = -1654.1\ KJ/mol)$$

SECTION 'C'

(DETAILED-ANSWER QUESTIONS) **Marks : 32**

Note: Answer any Four questions from this section. All questions carry equal marks.

3. Write the postulates of Bohr atomic theory. Derive an expression for the radius of hydrogen atom.

4. Write postulates of VSEPR theory. Explain the shapes of molecules containing the following electron pair on their central atom:

* Three bond pairs and zero lone pair
* Two bond pairs and two lone pairs

5. State law of mass action. Derive equilibrium constant (Kc) expression of general reversible reaction. Silver sulphate (Ag_2SO_4) is used for medicinal purpose to fill wounds. Its solubility in water at 25°C is 1.43×10^{-2} moles/dm^3. What will be its Ksp?

OR What is an ideal gas? Why real gases deviate from ideal behavior? Derive Vander Waals equation for the correction of volume and pressure.

6. What are colligative properties of solution explain elevation of boiling point or depression in freezing point.

OR State and explain first law of thermodynamics. Prove that $W = -P\Delta V$ and $qp = \Delta H$ (Draw diagram where necessary.

7. Define electrode potential. Draw a cell diagram of zinc hydrogen galvanic cell. How is the electrode potential of Zinc determined?

OR Define a redox reaction. Balance any TWO of the following equations using the ion-electron method:

* $HNO_3 + H_2S \rightarrow NO + S + H_2O$
* $Cl_2 + \bar{O}H \rightarrow Cl^- + ClO_3^- + H_2O$ (Basic Medium)
* $Fe^{2+} + Cr_2O_7^{2-} + H^+ \rightarrow Fe^{3+} + Cr^{3+} + H_2O$ (Acidic Medium)

ADAMJEE GOVT. SCIENCE COLLEGE

PRELIMINARY EXAMINATION - 2026

Time: 3 Hours **COMPUTER SCIENCE – I** *Max. Marks: 75*

SECTION-A

(MULTIPLE CHOICE QUESTIONS)

. Marks: 15 (Science Pre-Engineering & General Groups) Time: 20 minutes

1. Choose the correct answer for each from the given options:

i. 1 Gigabyte (GB) data is equivalent to:

*1024 KB *1024 Bytes *1024 MB *1024 TB

ii. Floppy Disk and Hard Disk are the types of:

*Optical Disk *Magnetic Tape *Magnetic Disk *Flash Memory

iii. The Dot Matrix is a type of:

*Scanner *Memory *Monitor *Printer

iv. OSI Model contain:

*six layers *five layers *three layers *seven layers

v. This is a Scanning device:

*Bar code Reader *Plotter *Keyboard *LED

vi. A computer program that translates one statement of program instructions at a time into machine language is called:

*Debugger *Interpreter *Compiler *Assembler

vii. This is an Anti-Virus program:

*Internet Explorer *Trojan *Worm *McAFee

viii. A physical or logical arrangement of computers that communicate with each other is called:

*Topology *Mode of Operation *WAN *Communication

ix. This LAN component connects two similar networks:

*Server *Bridge *Router *Gateway

x. Coaxial cable and fiber optics are the examples of:

*Router *Switch *Modem *Communication Media

xi. This mark-up language is used to produce Web pages:

*XML *HTML *SGML *WML

xii. The most common protocol used for e-mail is:

*FTP *TCP/IP *SMTP *IEEE

xiii. The process of converting an analog signal to digital signal is called:

* Modulation *Switching *Demodulation *Telecommunicating

xiv. It is the set of Rules on the internet:

*Topology *Protocol *Router *Modem

xv. A mode of communication that allows information to travel two directions but not simultaneously is called:

*Full duplex *Half duplex *Synchronous *Simplex

ADAMJEE GOVT. SCIENCE COLLEGE

PRELIMINARY EXAMINATION - 2026

COMPUTER SCIENCE– I

SECTION 'B'

(SHORT ANSWER QUESTIONS) **(MARKS-30)**

2. Note: Answer ALL part questions from this section. All part questions carry equal marks.

i) Define PUSH and POP in STACK.

OR

What do a compiler and interpreter do?

ii) What are the differences between Hardcopy and Softcopy?

OR

Differentiate between Synchronous transmission and Asynchronous Transmission.

iii) Define computer virus? Name any two anti viruses.

OR

Define control unit of CPU

iv) What is fetch Cycle? Draw its diagram.

OR

Name the component of data communication.

v) What is Modulation and Demodulation?

OR

Difference between command line interface and GUI

vi) Write any three abuses of Internet.

vii) What are peripheral devices? Name any three.

viii) Differentiate between Bit, Byte and Word.

ix) What is protocol? Enlist any 3 protocols.

x) Write full form of any Three of the following:

*OCR *GUI *HTTP *CRT *BIOS

SECTION 'C'

(DETAILED ANSWER QUESTIONS) **(MARKS-30)**

Note: Answer ALL questions from this section. All questions carry equal marks.

3. What is an Operating System? Explain its Functions.

OR

What is Computer Register? Explain its types.

4. Define software? Explain System Software and Application Software.

OR

Explain secondary storage devices with examples.

5. Draw and explain OSI reference model.

OR

What is meant by Topology? Describe and name any three network topologies with diagram.

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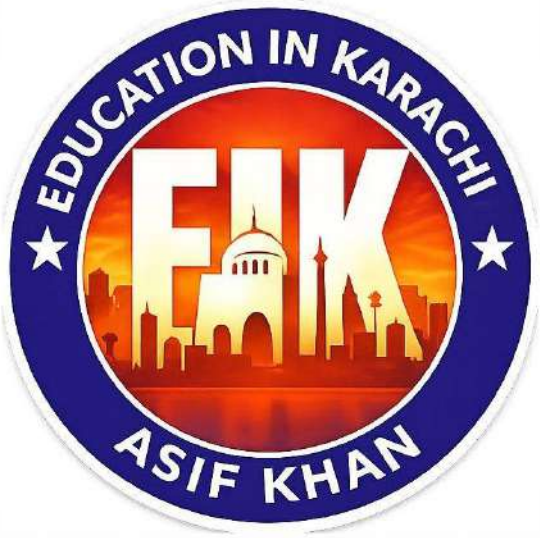

ADAMJEE GOVT. SCIENCE COLLEGE

PRELIMINARY EXAMINATION– 2026

Time: 3 hours | (ENGLISH PAPER – I) | Max.Marks:100

SECTION 'A' (Multiple Choice Questions) – (M.C.Qs) Marks: 20

Q1. Choose the correct answer for each from the given options.

i) Identify the irregular verb
• discuss • speak • attend • pass

ii) In the sentence 'We walked,' the underlined verb is
• auxiliary • transitive • modal • intransitive

iii) In the sentence 'The child ate quickly.' the underlined word is
• Noun • Adjective • Verb • Adverb

iv) The prefix're' in the word 'rejoice' means
• like • again • very again

v) This prefix can be added to the word 'belief' meaning 'lack of faith'
• fore • dis • semi • super

vi) Kreton said people on his planet did not
• speak • die • fight • love

vii) Spelding criticizes John for growing
• Cabbage • walnuts • corn • peanuts

viii) Kreton appears to be in his
• twenties • thirties • forties • fifties

ix) Scene II of the Play 'A Visit to a Small Planet' is set in
• drawing room • living room • study • none

x) ____ is called Mr. Clean of the world.
• Singapore • Pakistan • Bangladesh .none

xi) 'When things seem worst,' we should
• run away • take some other way • stick to them • stop moving ahead

xii) 'But lived and died a scrubby thing' means lived a/an
• unimportant • high status • useful • comfortable

xiii) The poet chanced to see Lucy at/in
the break of day • the morning the afternoon night

xiv) The Shepherd demanded Abbott's to answer king's questions
• lands • house • horse & dress • wealth

xv) Khahoris trouble their bodies to attain their
• goals • class • destination • earnings

xvi) Choosing career requires
• Interest • Personality • Skills • All of these

xvii) The writer visited the bank
• frequently • first time • in a month • yearly

xviii) According to the Quaid-e-Azam, the poisonous thing is
• corruption • black marketing • nepotism • bribery

xix) Loisel gives Mathilde four hundred francs to
• go to theatre • buy jewellery • buy outfits • help her friend

xx) A group of people travelling together is called
• sages • caravan • crew • school

SECTION 'B'

(SHORT-ANSWER QUESTIONS) (40 Marks)

NOTE: Attempt Six part-questions from Section B-I and Four part-questions from Section B-II. All part-questions carry equal marks.

SECTION B-I (Reading Comprehension, Poetry and Play)

Q2. i) Write the speech of Muhammad Ali Jinnah on religious freedom.
ii) What was Mme. Loisel's reaction on reading the invitation?
iii) How does technology secure humans from calamities?
iv) Why was Booker T. Washington inspired to go to Hampton?

v) Write the qualities of a happy man in the light of 'The Character of a Happy Life.'
vi) What effect doe the poem 'Don't Quit' create on the reader?
vii) What is ironic about the fate of Ozymandias?
viii) How is media depicted in the play 'A Visit to a Small Planet'?
ix) Describe the reaction of different characters to Kreton in the play 'A Visit to a Small Planet'?
x) Who is your favourite character in the play 'A Visit to a Small Planet' and why?

SECTION B-II (Grammar)

xi) Proofread the following passage and rewrite it:
You are one of Pinkerton's detective I suppose. He said. My mysterious manner had make him think that I am detective. I knew what was he thinking.

xii) Insert suitable modal verb according to the instruction given in bracket:
a) Ali __ speak fluent French when he was 5. (Past Ability)
b) You __ memorize all of these rules about tenses. (Obligation)
c) She __ speak three languages fluently. (Ability)
d) You __ try this cake, it is delicious. (Recommendation)

xiii) Change the narration:
a) The poor man said to me, 'Please help me.'
b) The teacher said to me, 'How long have you been here?'
c) He said, 'Wow, I have got the job!'
d) 'Let's go to the beach this weekend,' he said to the family.

xiv) Fill in the blanks by selecting the appropriate word from the box:
cause – result – consequence – influence
a) Peer pressure can greatly _____ teenagers' decisions.
b) The heavy rainfall was the main _____ of flooding in the city.
c) One negative _____ of pollution is respiratory disease.
d) The experiment produced unexpected _____.

xv) a)The committee approved the proposal. (Change the Voice)
b) If she had studied harder, ____. (Complete the sentence)
c) They go to the gym. *(Put the adverb "rarely" in the correct place)*
d) The weather was very cold. We decided to stay indoors. *(Make a compound sentence)*

SECTION 'C'

(DETAILED-ANSWER QUESTIONS) **(40 Marks)**

NOTE: Answer all questions from this section. All questions carry equal marks.

Q3. Compose a covering letter and CV for the post of English Lecturer

Q4. Write an essay to compare and contrast on any ONE of the following:
a) Traditional Arts v/s Digital Arts
b) Public Universities v/s Private Universities
c) Remote Work vs Office Work
d) Oriental Food v/s Occidental Food

Q5. Write a formal report on 'Seminar on Climate Change Awareness' held at your college. OR
Write a narrative account about the remarkable achievement of your life.

Q6. SEEN COMPREHENSION
Read the following passage and answer the questions that follow:

There is a time in every man's education when he arrives at the conviction that envy is ignorance; that imitation is suicide; that he must take himself for better, for worse, as his portion; that though the wide universe is full of good, nothing of substance can come to him but through his toil bestowed on that plot of ground which is given to him to till. The power which resides in him is new in nature, and none but he knows what he can do, nor does he know until he has tried. A man is relieved and happy when he has put his heart into his work and done his best; but what he has said or done otherwise, shall give him no peace.

i. Write the title and the name of the writer of the given passage. 1
ii. Write one conviction of an educated man? 1
iii. When does a person feel true peace and happiness? 2
iv. Classify the word class of the following words.
a)Time b) resides b) to 3
v. Define the following phrases:
a) Imitation is suicide b) envy is ignorance c) put his heart into his work 3

آدم جی گورنمنٹ سائنس کالج کراچی

پرچہ اسلامی تعلیم (لازمی)

وقت:۲ گھنٹے — **پریلیم ایگزامینیشن امتحانات ۲۰۲۶ء** — کل نشانات:۵۰

وقت:۱۵ منٹ — **حصہ 'الف' (کثیر الانتخابی سوالات)** — نشانات:۱۰

نوٹ: اس حصہ میں سے دس جزوی سوالات ہیں اور تمام کے جوابات مطلوب ہیں۔ ہر جز کا ایک نمبر ہے۔ اپنی جوابی کاپی میں جزوی سوال نقل نہ کیجئے۔

۱. مندرجہ ذیل میں سے ہر ایک کے لئے درست جواب منتخب کیجئے:

۱۔ سورۃ الانفال میں لفظ 'انفال' کے لغوی معنی کیا ہیں؟ • مالِ تجارت • جنگی قیدی • لشکر کا دستہ • زائد چیز یا انعام

۲۔ قرآن مجید کی کس سورۃ کے شروع میں بسم اللہ نہیں لکھی جاتی؟ • سورۃ النحل • سورۃ الاحزاب • سورۃ البقرہ • سورۃ التوبہ

۳۔ لفظ قرآن کے معنی ہیں: • پڑھنا • سننا • لکھنا • بولنا

۴۔ سورۃ الانفال اس موقع پر نازل ہوئی: • جنگ بدر • جنگ احد • جنگ خندق • جنگ خیبر

۵۔ اللہ تعالیٰ کو اس کی ذات و صفات میں واحد ماننے کا نام ہے: • ایمان • عقیدہ • توکل • توحید

۶۔ نبوت لفظ کے معنی ہیں: • پیغام پہنچانا • حکم کرنا • انتخاب کرنا • خبر دینا

۷۔ اسلام کی پہلی ریاست قائم ہوئی: • مدینہ منورہ • مکہ مکرمہ • قبا • طائف

۸۔ "صحیحین" کن دو کتبِ احادیث کو کہا جاتا ہے؟ • بخاری و ترمذی • بخاری و مسلم • مسلم و ابن ماجہ • موطا و مشکوٰۃ

۹۔ ہجرتِ مدینہ کے بعد مسلمانوں اور یہودیوں کے درمیان ہونے والا تحریری معاہدہ کہلاتا ہے • صلح حدیبیہ • بیعتِ عقبہ • میثاقِ مدینہ • حلف الفضول

۱۰۔ نماز کی فرضیت کا حکم کس موقع پر ملا؟ • ہجرت کے وقت • فتح مکہ پر • معراج کے موقع پر • غارِ حرا میں

حصہ 'ب' (مختصر جواب کے سوالات)

کل نشانات: ۲۰

نوٹ: اس حصہ کے تمام سوالات کے جواب دیجیے۔

۲۔ (الف) مندرجہ ذیل قرآنی آیات میں سے کسی چار کا اردو، سندھی یا انگریزی میں ترجمہ کیجیے

(i) ذٰلِكَ الْكِتَابُ لَا رَيْبَ فِيهِ هُدًى لِّلْمُتَّقِينَ

(ii) وَمِنَ النَّاسِ مَن يَقُولُ آمَنَّا بِاللَّهِ وَبِالْيَوْمِ الْآخِرِ وَمَا هُم بِمُؤْمِنِينَ

(iii) يَا أَيُّهَا النَّاسُ اعْبُدُوا رَبَّكُمُ الَّذِي خَلَقَكُمْ وَالَّذِينَ مِن قَبْلِكُمْ لَعَلَّكُمْ تَتَّقُونَ

(iv) الَّذِينَ يُؤْمِنُونَ بِالْغَيْبِ وَيُقِيمُونَ الصَّلَاةَ وَمِمَّا رَزَقْنَاهُمْ يُنفِقُونَ

(v) يَسْأَلُونَكَ عَنِ الْأَنفَالِ قُلِ الْأَنفَالُ لِلَّهِ وَالرَّسُولِ فَاتَّقُوا اللَّهَ وَأَصْلِحُوا ذَاتَ بَيْنِكُمْ

(vi) إِذْ تَسْتَغِيثُونَ رَبَّكُمْ فَاسْتَجَابَ لَكُمْ أَنِّي مُمِدُّكُم بِأَلْفٍ مِّنَ الْمَلَائِكَةِ مُرْدِفِينَ

(vii) وَاعْلَمُوا أَنَّمَا أَمْوَالُكُمْ وَأَوْلَادُكُمْ فِتْنَةٌ وَأَنَّ اللَّهَ عِندَهُ أَجْرٌ عَظِيمٌ

(viii) يَا أَيُّهَا الَّذِينَ آمَنُوا إِذَا لَقِيتُمْ فِئَةً فَاثْبُتُوا وَاذْكُرُوا اللَّهَ كَثِيرًا لَّعَلَّكُمْ تُفْلِحُونَ

(ب) مندرجہ ذیل احادیث میں سے کسی دو کا اردو، سندھی یا انگریزی میں ترجمہ کیجیے۔

(i) لَا يُؤْمِنُ أَحَدُكُمْ حَتَّى يُحِبَّ لِأَخِيهِ مَا يُحِبُّ لِنَفْسِهِ.

(ii) إِنَّمَا الْأَعْمَالُ بِالنِّيَّاتِ.

(iii) مَنْ صَمَتَ نَجَا.

(iv) مَنْ أَحْيَا سُنَّتِي فَقَدْ أَحَبَّنِي، وَمَنْ أَحَبَّنِي كَانَ مَعِي فِي الْجَنَّةِ.

۳۔ مندرجہ ذیل میں سے چار جزوی سوالات کے جوابات تحریر کیجیے۔ تمام سوالات کے نشانات مساوی ہیں۔

سوال نمبر-1 قرآنِ مجید کی چار خصوصیات مع معانی لکھیں۔

سوال نمبر-2 میانہ روی کیا ہے؟ اس کے فوائد بیان کیجیے۔

سوال نمبر-3 خاموشی کے چار فوائد بیان کیجیے۔

سوال نمبر-4 نماز کی شرائط بیان کیجیے۔

سوال نمبر-5 بحیثیتِ سربراہِ مملکت حضور ﷺ کی سیرت طیبہ کے گوشے اجاگر کیجیے؟

سوال نمبر-6 صبر کی اقسام لکھیں۔

سوال نمبر-7 اللہ تعالیٰ نے حضرت آدم علیہ السلام کو دیگر مخلوقات پر کس طرح فضیلت عطا فرمائی؟

سوال نمبر-8 مومنوں کے لیے کون سی چیزیں آزمائش ہیں؟

حصہ 'ج' (تفصیلی جواب کے سوالات)

کل نشانات: ۲۰

نوٹ: اس حصہ سے کسی دو سوالوں کے جواب دیجیے۔ تمام سوالات کے نمبرات برابر ہیں۔

سوال نمبر-1 عقیدۂ توحید کیا ہے؟ انسانی زندگی پر اس کے اثرات بیان کیجیے۔ یا
صوم کیا ہے؟ قرآن و حدیث کی روشنی میں اس کی اہمیت اور فوائد بیان کیجیے۔

سوال نمبر-2 نبی کریم ﷺ رحمۃ للعالمین ہیں، تفصیل سے بیان کیجیے۔

سوال نمبر-3 مندرجہ ذیل میں سے کسی دو پر نوٹ لکھیں۔

☆ تدوینِ قرآن ☆ عدل و انصاف ☆ حقوقِ نسواں ☆ حضرت امام جعفر صادقؒ

ADAMJEE GOVT. SCIENCE COLLEGE

PRELIMINARY EXAMINATION – 2026

Max. Marks: 100 **MATHEMATICS– I** Time: 3 hours

SECTION-A

Marks: 20 (MULTIPLE CHOICE QUESTIONS) Time: 20 minutes

Q. 1. Choose the correct answer for each of the given options.

i. If $z = -3i + 4$, then $\bar{z} =$:

*$3i + 4$ *$3i - 4$ *$-3i + 4$ *$-3i - 4$

ii. If $z_1 = 2 + 3i$ and $z_2 = 1 - i$ then $|z_1 z_2| =$

*$\sqrt{13}$ *$\sqrt{15}$ *$\sqrt{26}$ *26

iii. The number of non-zero rows in echelon from of a matrix is called

*Order of a matrix *Rank of matrix *Leading column *Leading row

iv. If rank of matrix A is less then number of rows, then it always has:

*no solution *many solutions *unique solution *trivial solution

v. If O be the origin and $\overline{OP} = 2\hat{\imath} + 3\hat{\jmath} - 4\hat{k}$ and $\overline{OQ} = 5\hat{\imath} + 4\hat{\jmath} - 3\hat{k}$, then $\overline{PQ}$ is equal to:

*$7\hat{\imath} + 7\hat{\jmath} - 7\hat{k}$ *$-3\hat{\imath} + \hat{\jmath} - \hat{k}$ *$3\hat{\imath} + \hat{\jmath} + \hat{k}$ *$-7\hat{\imath} + 7\hat{\jmath} + 7\hat{k}$

vi. If $|\vec{a}| = 7$, $|\vec{b}| = 2$ and $\vec{a}.\vec{b} = 0$, then the value of $|\vec{a} \times \vec{b}|$ is:

*2 *7 *9 *14

vii. The nth term of the sequence 1,8,27,64, is:

*$n + 1$ *n^2 *n^3 *$n^2 + 1$

viii. The infinite geometric series is divergent, if the value of common ratio r is:

*$\frac{1}{2}$ *2 *$\frac{3}{4}$ *0.33

ix. If $a_n - a_{n-1} = n + 1$ and $a_4 = 14$ then $a_5 =$:

*3 *5 *14 *20

x. A coin is tossed nine times repeatedly with 5 heads and 4 tails, then number of ways are:

*1 *9 *63 *126

xi. A single six sided die is rolled once. The probability of 2, given that an even number has already been rolled, is:

*1 *2 *$\frac{1}{2}$ *$\frac{1}{3}$

xii. The number of terms in the expansion of $(1 + x)^7$ is:

*7 *8 * 9 *10

xiii. The first negative term of the expansion $(1 + x)^{\frac{7}{2}}$ is:

*3rd term *4th term *5th term *6th term

xiv. Domain of the function $f(x) = \frac{x^2}{x^2 - 4}$ is the set of all real numbers except:

*4 *3 *2 *± 2

xv. The maximum number of point(s) of intersection of a line and a parabola is:

*0 *1 *2 *3

xvi. $2\cos^2\left(\frac{\theta}{2}\right) - 1 =$

*$\sin\theta$ *$\cos\theta$ *$\tan\theta$ * $\cot\theta$

xvii. A circle which touches one side of the triangle externally and two extended sides internally is called:

*circumcircle *in-circle *tri-circle *escribed circle

xviii. The in-radius r of inscribed circle is:

*$r = \frac{\Delta}{s}$ *$r = \frac{s}{\Delta}$ *$r = \Delta s$ *$r = \frac{abc}{\Delta}$

xix. The period of $\tan 3x$ is:

*$\frac{\pi}{3}$ *3π *$\frac{3}{\pi}$ *$\frac{1}{3\pi}$

xx. $\cos\left(\sin^{-1}\frac{1}{2}\right) =$:

*$\frac{2}{\sqrt{3}}$ *$2\sqrt{3}$ *$\frac{\sqrt{3}}{2}$ * $\frac{1}{2\sqrt{3}}$

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PRELIMINARY EXAMINATION – 2026

MATHEMATICS– I

SECTION – B

(Short-Answer Questions) **Marks 40**

Note: Attempt all part questions from this section. All questions carry equation marks.

2. (i). Attempt either part (a), or part (b).

(a) Solve $z^2 - 10z = -41$ by completing the squares, where z is a complex number.

(b) Find the real and imaginary parts of $\frac{3z+i}{z+4}$ for $z = 3 + 2i$

(ii). Find the rank of $\begin{bmatrix} 5 & 9 & 3 \\ -3 & 5 & 6 \\ -1 & -5 & -3 \end{bmatrix}$ by reducing it to echelon form.

(iii). Without expending, prove that $\begin{vmatrix} 1+a & 1 & 1 \\ 1 & 1+b & 1 \\ 1 & 1 & 1+c \end{vmatrix} = abc + bc + ca + ab.$

(iv). Using vector prove that the mid point of the hypotenuse of a right-angle tringle is equidistance from its vertices.

(v). Attempt either part (a), or part (b).

(a) The A.M. of two numbers is 8 and H.M. is 6. Find the numbers.

(b) Sum of the series $\frac{1}{1\cdot4} + \frac{1}{4\cdot7} + \frac{1}{7\cdot10} + \cdots$ to infinity.

(vi) Attempt either part (a), or part (b).

(a) If $a = \frac{b}{2} + \frac{b^2}{4} + \frac{b^3}{8} + \cdots$ if $0 < b < 2$, then prove that $b = \frac{2a}{1+a}$

(b) Find inverse of f and determine the domain and range of f^{-1} for the real valued function f defined by, $f(x) = \frac{x-1}{x-4}, x \neq 4$.

(vii) In how many ways can two English books, three Chemistry books and four Physics books be arranged on a shelf so that all the books of same subject are together?

(viii) Attempt either part (a), or part (b).

(a) By method of mathematical induction, prove that $7^n - 4^n$ is divisible by 3.

(b) Show that $\cos^5\theta = 16\cos^5\theta - 20\cos^3\theta + 5\cos\theta$

(ix) Attempt either part (a), or part (b).

(a) Evaluate without using calculator $\cos 20^0 \cos 40^0 \cos 60^0 \cos 80^0$

(b) Find the general solution set of the trigonometric equation $\operatorname{cosec}\theta = \sqrt{3} + \cot\theta$ and also verify the solution.

(x) Attempt either part (a), or part (b).

(a) The sides of a parallelogram are 25cm and 35cm long and one of its angle is 36^0. Find the length of the diagonal(s).

(b) Show that: $Tan^{-1}\left(\frac{3}{4}\right) + Tan^{-1}\left(\frac{3}{5}\right) - Tan^{-1}\left(\frac{8}{19}\right) = \frac{\pi}{4}$

SECTION 'C'

(DETAILED-ANSWER QUESTIONS) Marks : 40

Note: Attempt all questions from this section. All parts questions carry equal marks.

3. Attempt either part (a), or part (b).

(a) Use Guass-Jordan method to solve the system of linear equation:

$x - y + 4z = 4, \quad 2x + 2y - z = 2, \quad 3x - 2y + 3z = 3$

(b) Solve the non-homogeneous system of linear equation using Guass Elimination method:

$-x + y + z = 0, \quad x + 2y = 5 \quad , \quad -3x + 2y - z = -2$

4. A fair die is thrown twice. Find the probability that an even number of dots appears in first and the number of dots in the second throw is less than 4.

5. Attempt either part (a), or part (b).

(a) In a parallelogram ABCD, X is the mid point of $\overrightarrow{AB}$ and Y divides $\overrightarrow{BC}$ in 1 : 2. Show that if Z divides $\overrightarrow{DX}$ in 6 : 1, then it also divides $\overrightarrow{AY}$ in 3 : 4.

(b) If $\frac{1}{x} = \frac{2}{5} + \frac{1.3}{2!}\left(\frac{2}{5}\right)^2 + \frac{1.3.5}{3!}\left(\frac{2}{5}\right)^3 + \cdots$ then show that $4x^2 - 2x - 1 = 0$.

6. Attempt either part (a), or part (b).

(a) Find the equation of the graph of the function of the type $y = ax^2 + bx + c$ which crosses the x – axis at the points (-4 , 0) and (3, 0) and also passes through the point (2, -4).

(b) Prove that: $\frac{1}{r^2} + \frac{1}{r_1^2} + \frac{1}{r_2^2} + \frac{1}{r_3^2} = \frac{a^2+b^2+c^2}{\Delta^2}$.

(7) Attempt either part (a), or part (b).

(a) Solve the Linear programming by graphical method when $x \geq 0$ and $y \geq 0$ maximize:

$$Z(x, y) = 41x + 38y, \text{subject to: } 4x + 5y \leq 26;\ 8x + 5y \leq 22 \text{ and } 5x + 2y \leq 10.$$

(b) By using graph, find the solution of the trigonometric equation $\sin x - \frac{3x}{\pi} = 0$

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PRELIMINARY EXAMINATION - 2026

PHYSICS – I

Max. Marks: 17 | SECTION-A | Time: 20 minutes

(MULTIPLE CHOICE QUESTIONS)

Note:

(i) Attempt all the questions.
(ii) Do not copy down the questions. Write only the answer.
(iii) Each question carries *ONE* mark.

Q.1 Choose the correct answer for each from the given options:

1. (i) The respective number of significant figures for the numbers 23.023, 0.0003, and 2.1×10^3 are:

*5, 1, 2 *5, 1, 3 *4, 1, 2 *4, 4, 2

(ii) The speed of sound in air at STP is 332m / s. If the air pressure doubles at the same temperature, the speed of sound becomes:

*1382 m /s *664 m /s *332 m /s *166 m /s

(iii) If momentum is increased by 20% then K.E increases by:

*44% *55% *66% *77%

(iv) The percentage uncertainty in the measurement (3.67 ± 0.25) m

*5.8 % *6.8 % *7.8 % *8.8 %

(v) How much height does a freely falling body of mass 10 kg lose in 2 seconds?

* 9.8m *49 m *19.6 m *4.9m

(vi) The kinetic energy of a body of mass m is K. its momentum is

*$\sqrt{2mk}$ *2mk *$\sqrt{\frac{mk}{2}}$ *$\frac{mk}{2}$

(vii) Calculate the hydrostatic pressure for water moving with constant velocity at a depth of 5 m from the surface.

*49 KN/m^2 *98 KN/m^2 *128 KN/m^2 *24 KN/m^2

(vii) Two charges are placed at a certain distance. If the magnitude of each charge is doubled, the force will become:

*1/4th of its original value *4 times its original value
*1/8th of its original value *8 times its original value

(ix) What is the value of the capacitance of a capacitor that has a voltage of 4Vandhas16C of charge?

*2F *4F *6F *8F

(x) The quantity $\frac{\Delta V}{\Delta r}$ is called:

*electric potential *electric field intensity
* potential gradient *electric induction

(xi) The distance between two consecutive nodes of a stationary wave will be:

*λ *$\lambda/2$ *$\lambda/4$ *$\lambda/6$

(xii) A communication channel consists of:

*transmission line only *optical fiber only *free space only *All of them

(xiii) The total energy of a particle executing simple harmonic motion is proportion alto:

*frequency of oscillation *maximum velocity of motion
*amplitude of motion *square of amplitude of motion

(xiv) If 2000 lines/cm are ruled on a grating, its grating element is:

*5×10^{-4} m *5×10^{-5} m *5×10^{-6} m *5×10^{-7} m

(xv) A wire of uniform area of cross-section A, length L, and resistance R is cut into two parts. The resistivity of each part:

*becomes zero *is halved *is doubled *remains the same

(xvi) Two perpendicular vectors having magnitudes of 4 units & 3 units are added. The resultant has the magnitude of:

*7 units *12 units *25 units *5 units

(xvii) The maximum beat frequency that a human ear can detect is:

*13 *15 *7 *9

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PRELIMINARY EXAMINATION - 2026

Max. Marks: 68 **PHYSICS – I** *Time: 2hr 40min*

SECTION 'B'

(SHORT ANSWER QUESTIONS) (MARKS-36)

Note: Answer any *nine* questions from this section. All questions carry equal marks.

Q.2 (i) A 100g golf ball moving with a velocity of 20 m/s collides with 8Kg steel ball at rest. If the collision is elastic, compute the velocities of both balls after the collision

(ii) Two cars are moving straight to each other from opposite directions at the same speed. The horn of one is blowing with the frequency of 3000Hz and is heard by the people in the other car with the frequency of 3400Hz; find the speed of the cars if the speed of sound in air is 340 m/s.

(iii) A rectangular boat is 4.0 m wide, 8.0 m long, and 3.0 m deep. (a) How much water will it displace if the top stays 1.0 m above the water? (b) What load will the boat contain under these conditions if the empty boat weighs 8.60×10^4 N in dry dock? (density of water = 1000 kg/m^3)

(iv) Two possible angles to hit a target by a mortar shell fired with an initial velocity of 98 m/s are 15° and 75 ° Calculate the projectile's range and the minimum time required to hit the target.

(v) A car starts from rest and moves with a constant acceleration. During the 5th second of its motion, it covers a distance of 36 m. Calculate the acceleration of the car.

(vi) Prove that the following equations are dimensionally correct.

(i) $T = 2\pi\sqrt{\frac{m}{K}}$ (ii) $s = v_i t + \frac{1}{2} a t^2$

OR

A guitar string has a linear density of 7.16g/m and is under tension of 152N. The fixed supports of the string are 89.4cm apart. If it vibrates in three segments, calculate the speed, the wavelength and the frequency of the standing wave.

(vii) Two parallel slits are illuminated by light of two wavelengths, one of which is 6.0×10^{-7} nm. On a screen, the fourth dark line of the known wavelength coincides with the fifth bright line of the unknown wavelength. Calculate the unknown wavelength.

OR

The spring used in one such device has a spring constant of 606 N/m, and the mass of the chair is 12.0 kg. The measured oscillation period is 2.41 s. Find the mass of the astronaut

(viii) To decrease the fundamental frequency of a guitar string by 4.0%, by what percentage should you reduce the tension?

OR

A 50 gm bullet is fired into a 10 kg block that is suspended by a long cord so that it can swing as a pendulum. If the block is displaced so that its centre of gravity rises by 10cm. What was the speed of the bullet?

(ix) Define escape velocity and derive the expression for escape velocity on Earth's surface.

OR

Define the angle of friction. Derive an expression for the relation between the angle of friction and the angle of repose.

(X) Discuss the forces acting on a banked curve and derive the relation between the curve angle and the velocity of the vehicle

OR

What is a Wheatstone Bridge? Derive a relation for the balance condition of Wheat stone Bridge.

SECTION 'C' (DETAILED ANSWER QUESTIONS) (MARKS-32)

Note: Answer any *four* questions from this section. All questions carry equal marks.

3. Two non-rotating sphere of masses m_1 and m_2 moving along a straight line with velocities U_1 and U_2 respectively, collide elastically. Drive an expression for the velocity of mass m_1

4. What are stationary waves? Discuss the vibrations in a stretched string when it is vibrating in
(i) one loop (ii) two loops (iii) three loops

5 Two forces $\vec{V}_1$ and $\vec{V}_2$ are acting at a point making angles θ_1 and θ_2 with the positive x-axis, respectively. Derive an expression for the magnitude and the direction of the resultant vector with respect to the positive x-axis.

OR

What is a simple pendulum? Show that the motion of a simple is simple harmonic motion. Also, derive an expression for the period of a simple pendulum.

6. What are Newton's rings? How are they formed? Derive an expression for the radius of bright and dark rings
OR what is streamlined flow? Also, derive Bernoulli's equation

7. What is Doppler's effect? Derive expressions for the apparent frequency of the sound heard by the listener when:(i) The listener moves towards the stationary source. (ii) The source moves away from the stationary listener.

OR

What is an electric dipole? Derive an expression for the electric field intensity at a point perpendicular distance ' y' from the center of the dipole.

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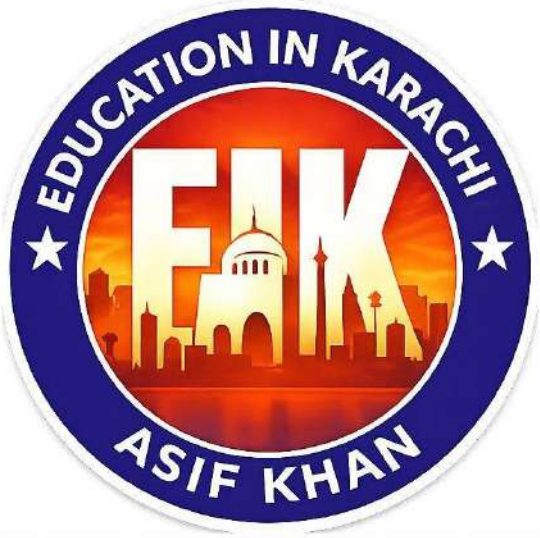

آدم جی گورنمنٹ سائنس کالج کراچی

پریلیمنری امتحانات ۲۰۲۶

اردو (لازمی) پرچہ اول

وقت: ۳ گھنٹے — کل نمبر: ۱۰۰

نوٹ: تمام سوالات کے جوابات تحریر کیجیے۔

نشانات: ۲۰

حصہ-الف (کثیر الانتخابی سوالات)

سوال نمبر ۱: مندرجہ ذیل میں سے ہر ایک کے لیے درست جواب منتخب کیجیے۔

i) "مصورِ فطرت" ان کو کہا جاتا ہے۔
☆پریم چند ☆میر حسن ☆خواجہ حسن نظامی ☆حالی

ii) اردو کی پہلی طویل قومی نظم ہے۔
☆حب وطن ☆مدوجزر اسلام ☆طلوع اسلام ☆شاہنامہ اسلام

iii) "شاعرِ شباب" اور "شاعرِ انقلاب" ہیں۔
☆جوش ☆انور مسعود ☆منیر نیازی ☆احمد فراز

iv) شاہ لطیف کے کلام کا جرمن زبان میں ترجمہ انہوں نے کیا۔
☆فتح ایاز ☆این میری شمل ☆ڈاکٹر سورلے ☆ایلسا قاضی

v) اردو شاعری میں فکر و فلسفہ کی ابتدا کرنے والے ہیں۔
☆آتش ☆غالب ☆حالی ☆اقبال

vi) "قاقے میں روزہ" اس کتاب سے ماخوذ ہے۔
☆آنگن ☆خدر دہلی کے افسانے ☆سی پارہ دل ☆بیگمات کے آنسو

vii) "نکاتِ سخن" کے مصنف ہیں۔
☆جوش ☆حسرت موہانی ☆غالب ☆میر

viii) "استثنائہ" صنف کے اعتبار سے ہے۔
☆قطعہ ☆آزاد نظم ☆پابند نظم ☆مثنوی

ix) "بکیلا" کا تعلق اس ملک سے تھا۔
☆ایتھوپیا ☆مراکش ☆آسٹریا ☆رومانیہ

x) "چچا چھکن" ان کا کردار ہے۔
☆ابن انشاء ☆پریم چند ☆امتیاز علی تاج ☆شوکت تھانوی

xi) تل اس قسم کی چٹانوں میں پایا جاتا ہے۔
☆پتھریلی ☆مسامدار ☆ریتیلی ☆بھربھری

xii) ڈرامہ اس زبان کا لفظ ہے۔
☆یونانی ☆اردو ☆انگریزی ☆اطالوی

xiii) شوکت تھانوی کا اصل نام ہے۔
☆احمد شاہ ☆دلاور علی ☆محمد عمر ☆شیر محمد خان

xiv) مرثیہ نگاری ان کی وجہ شہرت ہے۔
☆نظیر ☆جوش ☆میر انیس ☆میر حسن

xv) دارالمصنفین اس شہر میں ہے۔
☆علی گڑھ ☆اعظم گڑھ ☆بہاولپور ☆دہلی

xvi) شعر میں کسی تاریخی واقعے کا حوالہ کہلاتا ہے۔
☆تضاد ☆تلمیح ☆استعارہ ☆حسن تعلیل

xvii) علامہ اقبال کو لنگڑا آم انہوں نے بھیجا۔
☆سر عبدالقادر ☆حسرت موہانی ☆اکبر الہ آبادی ☆حالی

xviii) "ایک انار اور صد بیمار" کا ماخذ ہے۔
☆دنیا گول ہے ☆آوارہ گرد کی ڈائری ☆غبار گندم ☆آنگن

xix) غالب نے بہادر شاہ ظفر کے کہنے پر لکھی۔
☆دستنبو ☆قاطع برہان ☆مہر نیم روز ☆عود ہندی

xx) "رہے نام اللہ کا" ہیئت کے اعتبار سے ہے۔
☆رباعی ☆قطعہ ☆مخمس ☆مسدس

نشانات: ۴۰

حصہ "ب" (مختصر جواب کے سوالات)

نوٹ: تمام سوالات کے جوابات تحریر کیجیے۔

سوال نمبر ۲: مندرجہ ذیل میں سے کسی دو اشعار کی تشریح شاعر کے حوالے سے کیجیے۔

* تھا مستعار حسن سے اس کے جو نور تھا — خورشید میں بھی اس کا ہی ذرہ ظہور تھا
* معلوم سب ہے پوچھتے ہو پھر بھی مدعا — اب تم سے دل کی بات کہیں کیا زباں سے ہم
* ظلمت و نور میں تفریق ابھی مشکل ہے — رات سو رنگ بدلتی ہے سحر ہونے تک
* قید حیات و بند غم اصل میں دونوں ایک ہیں — موت سے پہلے آدمی غم سے نجات پائے کیوں
* بستے ہیں ترے سائے میں سب شیخ و برہمن — آباد ہے تجھ سے ہی تو گھر دیر و حرم کا
* سپرد کس کے مرے بعد ہو امانت عشق — اٹھائے کون یہ بار گراں نہیں معلوم

سوال نمبر ۳: (الف) منتخب کردہ اقتباس کے مصنف اور سبق کا نام تحریر کیجیے۔

(ب) مندرجہ ذیل میں سے کسی ایک اقتباس کی تشریح کیجیے۔

* ان نااتفاقیوں نے ہماری قوم کو نہایت ضعیف اور ٹکڑے ٹکڑے کر دیا ہے۔ جمعیت کی برکت ہماری قوم سے جاتی رہی ہے۔ قومی ہمدردی اور قومی امور کے سرانجام دینے میں اس نالائق نااتفاقی نے بہت کچھ اثر بد پہنچایا ہے۔
* علم ایک خزانہ غیبی ہے اور دل اس کا خزانچی، حوصلہ اس کا قفل ہے اور تو اس کی کنجی۔ دیکھ اس قفل کو بے اجازت نہ کھول اور اس خزانے کو بے موقع نہ اٹھا۔
* ہم جانتے ہیں کہ تم زندہ ہو، تم جانتے ہو کہ ہم زندہ ہیں۔ امر ضروری کو لکھ دیا۔ زوائد کو ہر وقت پر موقوف رکھا۔ اگر تمہاری خوشنودی اسی طرح کی نگارش پر منحصر ہے تو بھائی ساڑھے تین سطریں ویسی بھی میں نے لکھ دیں۔

سوال نمبر۴: (الف) نظم کے شاعر کا مختصر تعارف تحریر کیجیے۔

(ب) درج ذیل میں سے کسی ایک نظم کا مرکزی خیال تحریر کیجیے۔

- *چپ کی داد ° رہے نام اللہ کا ° مرد مسلمان

- یا

(الف) تشریح کردہ جز کے شاعر اور نظم کا نام تحریر کیجیے۔

(ب) مندرجہ ذیل جز کی تشریح کیجیے۔

اسی خلاق نے جوہر کو توانائی دی!----!پھول پتوں کو عطا جس نے کیے نقش و نگار

اس کی صنعت کے نمونے ہیں وہ نکہت ہو کہ رنگ اس کی قدرت کے کرشمے ہیں خزاں ہو کہ بہار

سوال نمبر۵: (الف) منتخب کردہ سبق کے مصنف کا مختصر تعارف تحریر کیجیے۔

(ب) مندرجہ ذیل میں سے کسی ایک سبق کا خلاصہ تحریر کیجیے۔

۔ ° آب حیات ° بیگم کی بلی ° فاقے میں روزہ ° زیور کا ڈبا۔ یا

دیئے گئے سوالات میں سے کسی پانچ کے جوابات تحریر کیجیے

(i) خواہ مخواہ کی لڑائی کا ہماری شخصیت اور ماحول پر کیا اثر ہوتا ہے؟

(ii) میاں بلی سے کیوں بے زار تھا؟

(iii) چندر پرکاش کے ذہن میں بے ایمانی کا خیال کیوں آیا؟

(iv) مرزا صاحب کو کیا بات اچھی لگی کہ وہ باقاعدہ مسجد آنے لگے؟

(v) کن باتوں سے زبان کی خصوصیات کو نقصان پہنچتا ہے؟

(vi) اسلام نے تفرقہ ء قومی کو مٹا کر کون سا رشتہ قائم کیا؟

(vii) تھر کی بچی کس بات کا دعویٰ کر رہی تھی؟

(viii) خط نویسی کے سلسلے میں محمد شاہی روش سے غالب کی کیا مراد ہے؟

حصہ 'ج' (تفصیلی جواب کے سوالات) نشانات:۴۰

سوال نمبر۶: مندرجہ ذیل میں سے کسی ایک شاعر کے کلام کی دس خصوصیات تحریر کیجیے۔

- مرزا غالب ° میر تقی میر ° علامہ اقبال

سوال نمبر ۷: مندرجہ ذیل میں سے کسی ایک نثر نگار کے طرز تحریر کی دس خصوصیات تحریر کیجیے۔

- سرسید احمد خان ° خواجہ حسن نظامی ° پریم چند - یا

مندرجہ ذیل عبارت کو پڑھ کر دیئے گئے سوالات کے جوابات تحریر کیجیے۔ تمام سوالات کے نشانات مساوی ہیں۔

"رموز بے خودی" کو میں اپنے خیال میں ختم کر چکا تھا، مگر پرسوں معلوم ہوا کہ ابھی ختم نہیں ہوئی۔ ترتیب مضامین کرتے وقت یہ بات ذہن میں آئی کہ ابھی دو تین ضروری مضامین باقی ہیں یعنی قرآن اور بیت الحرام کا مفہوم و مقصود حیات ملیہ اسلامیہ میں کیا ہے ان مضامین کے لکھ چکنے کے بعد اس حصہ مثنوی کو ختم سمجھنا چاہیے۔ مگر ایسے ایسے مطالب ذہن میں آئے ہیں کہ خود مسلمانوں کے لیے موجب حیرت و مسرت ہوں گے۔ کیونکہ جہاں تک مجھے معلوم ہے ملت اسلامیہ کا فلسفہ اس صورت میں اس سے پہلے کبھی پیش نہیں کیا گیا۔ نئے اسکول کے مصنفوں کو معلوم ہو گا کہ یورپ جس قومیت پر ناز کرتا ہے وہ محض بودے اور سست تاروں کا بنا ہوا ایک ضعیف چیتھڑا ہے قومیت کے اصول حقہ صرف اسلام نے ہی بتائے ہیں۔

(۱) اس عبارت کا عنوان تجویز کیجیے۔

(۲) قرآن اور بیت الحرام کا ملت اسلامیہ کی زندگی میں کیا مقام ہے؟

(۳) رموز بے خودی کیا ہے؟

(۴) یورپ کے تصور قومیت کو ضعیف چیتھڑا کیوں کہا گیا؟

(۵) عبارت کی تلخیص کیجیے

ADAMJEE GOVT. SCIENCE COLLEGE

PRELIMINARY EXAMINATION - 2026

Time: 2 Hours **ZOOLOGY– I** ***Max. Marks:40***

SECTION-A

Time: 15 minutes (MULTIPLE CHOICE QUESTIONS) **Marks: 08**

Note:

i. This section consists of 16 part questions and all are to be answered. Each part question carries 0.5 mark.

Q.1 Choose the correct answer for each from the given options:

i. This is an example of a steroid:
*Aldosterone *Testosterone *Insulin *Glycogen

ii. The non-protein part of an enzyme is called:
*Co-enzyme *Co-factor *Apo-enzyme *Holoenzyme

iii. This is an example of a water vascular system:
*Prawn *Unio *Planaria *Starfish

iv. These teeth are used to tear flesh:
*Molar *Incisor *Canine *Premolar

v. Foreign material blocking an artery is an example of:
*Thrombus *Inflammation *Embolus *Edema

vi. Oxygenated blood first drains into the:
*Right ventricle *Left atrium *Right atrium *Left ventricle

vii. Antibodies are produced by:
*T-cells *B-cells *Plasma cells *Macrophages

viii. This carbohydrate is not digested in the human body:
*Starch *Cellulose *Fructose *Lactose

ix. This is the oxygen carrier in blood:
*Myoglobin *Haemocyanin *Haemoglobin *Oxytocin

x. This structure provides support to the body of a sponge:
*Spicule *Gemmule *Spongocoel *Amoebocyte

xi. Degeneration of alveoli leads to:
*Tuberculosis *Emphysema *Sinusitis *Pneumonia

xii. This is an example of a globular protein:
*Haemoglobin *Silk *Elastin *Collagen

xiii. This character is absent in lamprey:
*Teeth *Jaws *Tongue *Gills

xiv. This artery supplies blood to the heart:
*Coronary artery *Pulmonary artery *Renal artery *Systemic artery

xv. All actively participate in phagocytosis except:
*Neutrophil *Basophil *Monocyte *Macrophage

xvi. It has true coelom:
*Roundworm *Tapeworm *Hydra *Leech

SECTION 'B'

Max. Marks: 32 (SHORT-ANSWER QUESTIONS) **Marks: 16**

Note: Answer any Eight part questions in all. Select four Reasoning Questions and four Non-Reasoning Questions. All part questions carry equal marks.

a) Reasoning Questions:

i) Why water is essential for life?

ii) Aschelminthes possess a body cavity, but it is called a pseudocoelom. Why?

iii) Why is fever not always beneficial to the body? **OR**
Why closed circulatory system is more efficient than an open circulatory system?

iv) Why does gastric acid not damage the stomach lining? **OR** How does pH affect enzyme activity?

v) Why do fats yield more energy than carbohydrates? **OR**
Why does the rate of breathing increase during exercise or running?

b) Non–Reasoning Questions:

vi) Differentiate between cartilaginous fish and bony fish.

vii) Mention the structure of DNA. **OR** Define blood pressure.

viii) Write note on pulmonary tuberculosis. **OR** Define protostomes and deuterostomes.

ix) Write note on single circulation and double circulation with examples. **OR**
Define enzyme concentration and substrate concentration.

x) Describe four basic chordate characteristics.

SECTION 'C'

(DETAILED-ANSWER QUESTIONS) **Marks: 16**

Note: Answer any Two questions from this section. All questions carry equal marks.

3. Describe the classification of carbohydrates with examples. Also explain the formation of glycosidic bond.

4. Describe the general characteristics of Class Mammals. Also mention its subclasses with suitable examples.

5. What is the adaptive immune system? Give a detailed account of T and B cells. **OR**
Define Lymphatic System. Describe Lymphatic System of man. Write its significance.