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# Military College Murree

Upper Topa, Murree Hills

*Character, Courage and Commitment*

**ENTRANCE EXAM  
VIII CLASS  
2019**



**Time Allowed: 4Hours**

**Total Marks: 200**

### **INSTRUCTIONS**

- All questions are compulsory.
- No marks will be awarded in case of cutting / overwriting or use of lead pencil.
- All questions will be attempted on this Exam Booklet.
- No extra answer sheet / loose papers will be given.
- Failing to abide by the following instructions will result in disqualification of candidates:-
  - Roll number will only be written in the given space.
  - No identifications marks e.g. name, drawings, signatures etc will be marked on the Exam booklet.
  - Examination Center will not be written on the Exam Booklet.
- Use of calculator is allowed.
- Part-I English paper contains 1-6 questions on pages 1 through 6.
- Part-II Mathematics paper contains 7-12 questions on pages7 through14.
- Part-III Physics paper contains 13-18 questions on pages15 through 21.
- Part-IV Chemistry paper contains 19-24 questions on pages22 through 27.

**MARKS OBTAINED**

**ENGLISH**

QuestionNo.	1	2	3	4	5	6	Total
Marks Obtained							

**MATHEMATICS**

QuestionNo.	7	8	9	10	11	12	Total
Marks Obtained							

**PHYSICS**

QuestionNo.	13	14	15	16	17	18	Total
Marks Obtained							

**CHEMISTRY**

QuestionNo.	19	20	21	22	23	24	Total
Marks Obtained							

Subject	English	Mathematics	Physics	Chemistry	Total
Marks Obtained					

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Asst Head Examiner

\_\_\_\_\_  
Head Examiner

\_\_\_\_\_  
Result Compiler

**PART-I**

**ENGLISH (50 MARKS)**

**SECTION – A (Marks 15)**

**Q.1 Insert the correct option i.e. A / B / C / D in the empty box opposite each part. Each part carries one mark.**

- (i) The festival, \_\_\_\_\_ lasted all day, ended with a banquet.  
A. That                      B. Who                      C. Which                      D. What
- (ii) Choose the correct spelling:  
A. Persaunification                      B. Personefication                        
C. Personification                      D. Personificashion
- (iii) The fly came in \_\_\_\_\_ the door. (Suitable Preposition)  
A. About                      B. Over                      C. Through                      D. Beneath
- (iv) A long bumpy drive means:  
A. Leisure time                      B. Easy time                        
C. Hard/ Challenging time                      D. Worried time
- (v) Which is more serious connotation?  
A. Problem                      B. Issue                      C. Trouble                      D. Disaster
- (vi) Will someone be here soon **to open the door?**  
A. Infinitive phrase                      B. Gerund phrase                        
C. Prepositional phrase                      D. Adverb phrase
- (vii) The police needed details \_\_\_\_\_ could help identify the robber.  
A. Who                      B. Whatever                      C. That                      D. What
- (viii) He devised the most **equitable** plan for setting the Black Stone.  
A. Privileged                      B. Reasonable                      C. Favourite                      D. Desireable
- (ix) A letter \_\_\_\_\_ by Ahsan. (**to write- Present continuous**)  
A. Be written                      B. Will being written                        
C. Is being written                      D. Is written
- (x) You can choose one person, \_\_\_\_\_ you like, to share the cruise with you.  
A. Whomever                      B. That                      C. Which                      D. Whom
- (xi) I didn't like the movie. I thought it was too \_\_\_\_\_.  
A. Depressed                      B. Depressing                        
C. Depress                      D. Depresses
- (xii) I am really \_\_\_\_\_ with one of my co-workers.  
A. Annoys                      B. Annoying                        
C. Annoyed                      D. Annoy

- (xiii) He asked me \_\_\_\_\_ very hard question. (Suitable Article) □  
 A. The B. A  
 C. An D. That
- (xiv) Did you meet anybody there? The underlined word is: □  
 A. Relative Pronoun B. Indefinite Pronoun  
 C. Personal Pronoun D. Interrogative Pronoun
- (xv) He pronounced all the letters very clearly. The underlined word is an adverb of: □  
 A. Frequency B. Degree  
 C. Time D. Manner

**SECTION – B (Marks 15)**

**Q.2 Answer the following questions parts in about 30 to 40 words each. Each part carries equal marks. (5 × 2 = 10)**

- (i) Why did the Jews and Non-Muslims trust Holy Prophet?  
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 \_\_\_\_\_  
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- (ii) What advice did Rasool Allah give to Hazrat Ali?  
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- (iii) Is Chinese belief about people having character traits of animals a fact or opinion?  
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(iv) What type of gifts Chinese elders give to children and adults on New Year day?

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(v) What should you do if you are allergic to adhesive material used in bandages?

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**Q.3: Read the following stanza carefully and answer the questions given at the end:(5)**

But all of that is not its core,  
Its center is in truth,  
Eternal stillness,  
Bright blue skies  
And all you hear,  
Are gentle whispers,  
Far away,  
And unimportant

**Questions :**

(i) Explain "its center is in truth".

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(ii) What is "not its core" and whose?

(iii) What is meant by eternal stillness?

**SECTION – C (Marks20)**

**Q.4 Translate the given sentences into English.**

**(10)**

(i) صرف چند لڑکے امتحان دیں گے

(ii) آج صبح کس ملازم کو دیاننداری کا انعام دیا گیا تھا

(iii) طلباء کے پرپے دیکھے جاسکے ہیں

(iv) ابھی تک بارش نہیں ہوئی تھی

(v) دروازے پر رنگ نہ کیا گیا



**Q.5 Translate the given sentences into Urdu.**

**(10)**

(i) Have you finished your work?

\_\_\_\_\_

(ii) The bridegroom has not put on new clothes.

\_\_\_\_\_

(iii) People have been coming to the parks since morning.

\_\_\_\_\_

(iv) The army didn't capture the fort.

\_\_\_\_\_

(v) Some servants will not work hard.

\_\_\_\_\_

**Q.6 Write a story in the given space based on the prompt / sketch / picture and give it an appropriate title. Use the given space only to write your story. (10)**

**Suitable Title:**

\_\_\_\_\_

**(2)**

<b>Plot</b>	<b>2</b>
<b>Diction</b>	<b>1</b>
<b>Language</b>	<b>2</b>
<b>Characters</b>	<b>2</b>



Salman is an Arab trader. He is honest and very hardworking. One day he was going on a trade journey with his young son. On the way,

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**PART-II**

**MATHEMATICS (50 MARKS)**

**SECTION A (Marks 15)**

**Q. 7** Insert the correct option i.e. A / B / C / D in the empty box provided opposite each part.

**Each part carries one mark.**

- (i) An equation of the form  $2x^4 - 3x^3 + 7x^2 - 3x + 2 = 0$  is a/an \_\_\_\_\_ equation.
- A. Reciprocal    B. Exponential    C. Radical    D. None of the given
- (ii) Cube root of -1 are
- A.  $-1, w, w^2$     B.  $-1, -w, w^2$     C.  $-1, -w, -w^2$     D.  $1, -w, -w^2$
- (iii) Variance of 5,5,5,5,5 is
- A. 5    B. 6    C. 5,5    D. Zero
- (iv) If  $2w$  and  $2w^2$  are root of an equation then equation is \_\_\_\_\_.
- A.  $x^2 + 2x + 4$     B.  $x^2 - 2x + 4$     C.  $x^2 + 2x - 4$     D. None of given
- (v) A relation between two quantities of same kind is called ....
- A. Ratio    B. Proportion    C. Variation    D. Inverse Variation
- (vi) A 3<sup>rd</sup> proportion of 12 and 4 is
- A.  $4/3$     B.  $-4/3$     C.  $-3/4$     D.  $3/4$
- (vii) A function  $f: A \rightarrow B$  is called an onto function iff
- A. Range of  $f < B$     B. Range of  $f \neq B$     C. Range of  $f = B$     D. none of given
- (viii) Area of circular Sector is  $A =$  \_\_\_\_\_.
- A.  $2\pi r$     B.  $1/2\pi r\theta$     C.  $2\pi r\theta$     D.  $\frac{1}{2}r^2\theta$
- (ix) One and only one ----- can pass through three non collinear points
- A. Line    B. Chord    C. Circle    D. Square
- (x) If two chords of a circle are congruent then they will be ----- from the center.
- A. Not greater    B. Greater    C. Not equidistance    D. Equidistance
- (xi)  $\text{Cosec}^2 \theta - \text{Cot}^2 \theta =$
- A. 1    B. 0    C. -1    D.  $\text{Tan}^2 \theta$
- (xii) A line which is common to the circle at one point is called ..... of a circle
- A. Sine    B. Tangent    C. Secant    D. Cosine
- (xiii) A complete circle is divided .
- A. 90 degree    B. 180 degree    C. 360 degree    D. 270 degree



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(iii) Prove that  $(\tan\theta + \cot\theta)(\cos\theta + \sin\theta) = \sec\theta + \operatorname{cosec}\theta$

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(iv) Form quadratic equation whose roots are 3 and 4

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**PART-III**

**PHYSICS (50 MARKS)**

**SECTION – A (Marks 15)**

**Q.13 Insert the correct option A, B, C, D in the empty box opposite to each part. Each part carries one mark.**

- (i) If the mass of a body attached with spring is increased four times then time period will be:  
A.  $T/2$                       B.  $T/\sqrt{2}$                       C.  $\sqrt{2} T$                       D.  $2T$
- (ii) Time period of secondpendulum is:  
A. 1 s                      B. 2 s                      C. 0.5 s                      D. 0.1 s
- (iii) Sound level of rustling of leaves is:  
A. 1 dB                      B. 10 dB                      C. 20 dB                      D. 30 dB
- (iv) Which of the following characteristics of a wave is independent of the others?  
A. Speed                      B. Frequency                      C. Amplitude                      D. Wavelength
- (v) The amount of energy supplied by the battery in pushing one coulomb of charge from its positive terminal to its negative terminal through the battery is known as:  
A. e.m.f                      B. Potential difference                      C. Resistance                      D. Power
- (vi) According to ohm's law the graph between  $V$  and  $I$  is a:  
A. Zig-zag line                      B. Curved line                      C. Straight line                      D. Circular line
- (vii) In series combination, the voltage across each resistance is:  
A. Same                      B. Different                      C. Infinite                      D. Zero
- (viii) When a suitable resistance is connected in series with the galvanometer, it is converted into:  
A. Ammeter                      B. Voltmeter                      C. Avometer                      D. Electroscope
- (ix) If a current ' $I$ ' ampere flows through a resistance ' $R$ ' in time ' $t$ ' seconds then the energy supplied will be:  
A.  $W = IRt$                       B.  $W = I^2Rt$                       C.  $W = IR^2t$                       D.  $W = IRt^2$
- (x) The resistance of an electric bulb is  $5000 \Omega$ . When a potential of  $250V$  is applied across its ends the power consumed by it is:  
A. 25 W                      B. 100 W                      C. 12.5 W                      D. 50 W
- (xi) When a current carrying conductor is placed parallel to the magnetic field, then the force acting on the conductor is:  
A. Minimum                      B. Maximum                      C. Zero                      D. Infinite
- (xii)  $1 \mu F =$  ----  
A.  $10^3 F$                       B.  $10^{-3} F$                       C.  $10^6 F$                       D.  $10^{-6} F$
- (xiii) Process of generating induced emf in a coil by changing current in neighboring coil is called:  
A. Lenz Law                      B. Faradays Law                      C. Mutual induction                      D. Self induction
- (xiv) The shape of magnetic lines of force in the case of a straight current carrying conductor are:  
A. Circular                      B. Triangular                      C. Rectangular                      D. Elliptical
- (xv) Which of the following works on principle of electromagnetic induction?  
A. Generator                      B. Motor                      C. Voltaic cell                      D. Galvanic cell

**SECTION-B (Marks 15)**

**Q.14 Answer all the parts. All parts carry equal marks.**

**(5x3 = 15)**

(i) Draw Symbol and truth table of NAND gate.

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(ii) Write down laws of refraction of light.

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(iii) What is specific resistance? Write down its formula and unit.

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**PART-IV**

**CHEMISTRY (50 MARKS)**

## SECTION-A(Marks15)

**Q.19** Insert the correct option i.e. A / B / C / D in the empty box provided opposite each part. Each part carries one mark.

- |        |  |                  |                                     |                      |
|--------|--|------------------|-------------------------------------|----------------------|
| (i)    | Choose Lewis acid  |                  | <input type="text"/>                |                      |
|        | A. $\text{CN}^-$   | B. $\text{NH}_3$ | C. $\text{H}_2\text{O}$             | D. $\text{H}^+$      |
| (ii)   | For a reaction between $\text{PCl}_3$ and $\text{Cl}_2$ to form $\text{PCl}_5$ , the units of $K_c$ are: |                  | <input type="text"/>                |                      |
|        | A. $\text{Mol dm}^{-3}$  |                  | B. $\text{Mol}^{-1} \text{dm}^{-3}$ |                      |
|        | C. $\text{Mol}^{-1} \text{dm}^3$   |                  | D. $\text{Mol dm}^3$                | <input type="text"/> |
| (iii)  | The stem "octa" stands for how many carbon atoms   |                  | <input type="text"/>                |                      |
|        | A. 4   | B. 6             | C. 7                                | D. 8                 |
| (iv)   | Pitch is produced by   |                  | <input type="text"/>                |                      |
|        | A. Coal  |                  | B. Coal tar                         |                      |
|        | C. Coal gas  |                  | D. Petroleum                        | <input type="text"/> |
| (v)    | Which reacts explosively with methane?   |                  | <input type="text"/>                |                      |
|        | A. $\text{F}_2$  |                  | B. $\text{Cl}_2$                    |                      |
|        | C. $\text{Br}_2$   |                  | D. $\text{I}_2$                     | <input type="text"/> |
| (vi)   | Which is not present in DNA  |                  | <input type="text"/>                |                      |
|        | A. De oxy ribose sugar   |                  | B. Ribose sugar                     |                      |
|        | C. Phosphate unit  |                  | D. Nitrogen base                    | <input type="text"/> |
| (vii)  | Troposphere extends up to  |                  | <input type="text"/>                |                      |
|        | A. 50 Km   |                  | C. 12 Km                            |                      |
|        | B. 18 Km   |                  | D. 80 Km                            | <input type="text"/> |
| (viii) | Which is reddish brown color gas?  |                  | <input type="text"/>                |                      |
|        | A. $\text{NO}_2$   |                  | C. $\text{NO}$                      |                      |
|        | B. $\text{SO}_2$   |                  | D. $\text{O}_3$                     | <input type="text"/> |
| (ix)   | Which is used to remove permanent hardness of water?   |                  | <input type="text"/>                |                      |
|        | A. Slaked lime   |                  | C. Washing soda                     |                      |
|        | B. Boiling water   |                  | D. All of these                     | <input type="text"/> |
| (x)    | The conjugate acid of $\text{NH}_3$ is:  |                  | <input type="text"/>                |                      |
|        | A. $\text{NH}_4^+$   |                  | C. $\text{NH}_2^-$                  |                      |
|        | B. $\text{H}_2\text{PO}_4^{1-}$  |                  | D. $\text{H}_3\text{PO}_4$          | <input type="text"/> |
| (xi)   | Heating calcium hydrogen carbonate produces  |                  | <input type="text"/>                |                      |
|        | A. $\text{CO}_2$   |                  | C. $\text{CaCO}_3$                  |                      |
|        | B. $\text{H}_2\text{O}$  |                  | D. All of these                     | <input type="text"/> |
| (xii)  | Dehydration of Alcohols can be carried out with:   |                  | <input type="text"/>                |                      |
|        | A. $\text{NaOH}$   |                  | C. $\text{KOH}$                     |                      |
|        | B. $\text{H}_2\text{SO}_4$   |                  | D. $\text{HCl}$                     | <input type="text"/> |
| (xiii) | Percentage of nitrogen in urea is  |                  | <input type="text"/>                |                      |
|        | A. 35  |                  | C. 21.2                             |                      |
|        | B. 80  |                  | D. 46.6                             | <input type="text"/> |
| (xiv)  | The naturally occurring metallic compounds are called as   |                  | <input type="text"/>                |                      |
|        | A. Ore   |                  | C. Mineral                          |                      |
|        | B. Gangue  |                  | D. Rock                             | <input type="text"/> |
| (xv)   | Which molecule contains carbon carbon double bond  |                  | <input type="text"/>                |                      |
|        | A. Ethene  |                  | C. Ethyne                           |                      |
|        | B. Ethane  |                  | D. Ethyl alcohol                    | <input type="text"/> |

**SECTION-B (Marks 15)**

**Q.20 Attempt All parts. All parts carry equal marks.**

**(5x3 = 15)**

(i) State the law of mass action.

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(ii) Why  $\text{BF}_3$  acts as Lewis acid?

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(iii) Differentiate between saturated and un-saturated hydrocarbons.

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(v) What are lipids? Give two examples.

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