

**SAMPLE PAPER**  
**UNIT TEST – 1**  
**CLASS – XII**  
**SUBJECT – ENGLISH**

**TIME- 2hrs**

**MM: 50**

**GENERAL INSTRUCTIONS-**

- 1. All questions are compulsory.**
- 2. Strictly adhere to the prescribed word limit.**

**SECTION A –READING COMPREHENSION**

**1. Read the following passage carefully.**

**12 marks**

**THE RED TAJ**

1)Agra's marble –marvel has such an over-whelming presence that other monuments in the town have been relegated to oblivion. Amongst such 60- odd monuments in the town, the Red Taj is the most elegant and relatively well preserved. The tomb in red sandstone was built by Ann Hessing, widow of a Dutch officer, Colonel John Hessing , after his death in 1803.ss

2) In the 18th century, during the period of expansion of the European power in the East, a number of European mercenaries came to India. In the course of time they grew increasingly powerful and played an important role in the new power struggle. They conquered kingdoms, over turned princes and ruled provinces. A long list of such military adventures can be drawn, though their names are but as indistinct items on a long forgotten scrawl, almost obliterated by the dust of time . Some of the European military freelancers of that time rose to such a prominence that they could mint coins of their names and bear their distinctive imprints \_ a prerogative of the royalty.

3)One of the most illustrious mercenaries of those heady days of adventure and conquest was John William Hessing (spelt Jan Willem Hessing in Dutch). He was born in Utrecht in 1739, entered the military service of the V.O.C. (United Dutch East India Company) at an early age of 13 and arrived in Ceylon in 1752.Five

years later, Hessing returned to the Netherlands .But after a decade , in 1763, he returned to the east, obviously longing for adventure.

4) Possibly as a result of the fourth Anglo- Dutch war, by which in 1781 the British occupied the Dutch settlements in India. Hessing , as did many of his clan, took refuge with the local rulers and warlords and entered into military service with them.

5) Hessing first commissioned in the army of the Nizam and in 1784 entered the service of Scindia. He took part in several major battles. Hessing wanted to leave due to differences with the senior officers, but Mahadaji Scindia did not let him go. He retained Hessing to organize a Bodyguard Force(Khas Risala)on the European model. He accompanied Mahadaji to Poona in June 1792. During their stay in Poona, Mahadaji died in 1794. Daulat Rao Scindia continued with his services.

6) In 1799, , Hessing was appointed Commander of Agra Fort and its Maratha garrison and the city of Agra.He held Agra till his death on 21 July 1803. Anne was devastated with grief. She along with her sons and daughter paid tribute and got a grand tomb for the burial of her husband. She was inspired by the Taj and so planned a similar structure. It is situated in an old graveyard, near Agra Civil Court on M.G. Road.

7) In its plan and execution, Hessing’s tomb is a feeble imitation of the Taj in Red sandstone. Nowhere is western influence seen on the building. Although it is not an architectural delight when compared with Taj Mahal but it is built in the same spirit of love and emotional appeal. A Dutch soul permanently took abode in an Indian body.

8) The white mausoleum of Shah Jahan for Mumtaz overshadows all the tombs in the world, but the ‘Red Taj’ is also a monument of sublime love of as disconsolate spouse. The entrance has two Persian inscriptions, one of which is the epitaph and the other a chronogram.

9) The tomb is actually a smaller project on a much reduced scale and some very complicated and costly details of the Taj such as the minars and the chhatris below the tomb have been dispensed with .It is much simpler and has no inlay or mosaic.

10) The tomb stands on a square platform, 3.40m and 117.68 m side, containing a crypt and a corridor around it. An octagonal platform, 2.59 m in span is attached to its each corner.

**1.1 On the basis of your reading of the passage, answer the following questions as briefly as possible. (1x6)**

a) According to the author why have monuments like Red Taj been relegated to oblivion?

b) What does ‘prerogative of the royalty’ mean here ?How did some mercenaries get to have that prerogative?

c) Who was John W. Hessing? What tribute did his wife pay him after his death?

- d) Why did Hessing want to leave Scindia? Why did Mahadaji not let him go?
- e) In what way does Red Taj resemble the original Taj?
- f) Why do you think is Hessing's monument called the 'Red Taj'?

**1.2 Choose the Red Taj, the number of monuments that have been overshadowed by the Taj is (1x6=6)**

- a) 59            b) 60            c) 61            d) 62

2. Hessing was appointed Commander of Agra Fort in the year

- a) 1752            b) 1763            c) 1784            d) 1799

3. Which of the following is common to both the Taj and the Red Taj?

- a) Complicated architecture and inlay work            b) A combination of Indian and western architecture
- c) Spirit of love and emotional appeal            d) Unfulfilled and one – sided love

4. A 'mercenary' is someone who fights for

- a) His/her native country    b) Monetary gains    c) Honour and reputation    d) Adventure and conquest

5. Which of the following is TRUE in the context of the passage?

- a) The Red Taj was built in the memory of Anne Hessing
- b) Hessing's sons planned a memorial for their father on the lines of the Taj
- c) The Red Taj is an architectural delight just like the Taj Mahal
- d) Hessing continued to work with the Scindias after the death of Mahadaji

6. A good example of the simplicity of the Red Taj is that it

- a) lacks the complexity of design, structure and size of the Taj
- b) is made of red stone and white marble
- c) was built by a loving and caring wife of an ordinary soldier
- d) has smaller inlays, mosaics, minarets and canopies.

**SECTION – B WRITING ( 14 MARKS )**

**Q2.** You are Rahul / Rashmi. As President of the Literary club of your school you have organized an inter school debate competition on the occasion of the silver jubilee celebrations of your school. Write a notice in about 50 words informing

the students of your school about the competition.

(4marks)

**Q3.** Teenagers today are getting hooked on to latest gadgets. Write an article on ‘The advantages of technology and its adverse effects’. You are Rajesh / Shalini. (150-200 words) (10marks)

**SECTION – C LITERATURE (24 MARKS)**

**Q4.** Read the extract given below and answer the questions that follow each: (3m)

Far far from gusty waves these children’s faces. Like rootless weeds, the hair torn around their pallor, The tall girl with her weighed – down head. The paper - seeming boy, with rats eyes.

1. Where do you think are these children sitting ?
2. Why is the head of the tall girl weighed – down ?
3. How do the faces and hair of these children look?

**Q5.** Read the extract given below and answer the questions that follow each: (3m) But after the airports

security check ,standing a few yards

away, I looked again at her, wan , pale

as a winters moon and felt that old

familiar ache, my childhoods fear ,

but all I said was see you soon,

amma,

1. Why did the poet compare her mother's face to a late winter's moon?

2. What is her childhood fear ?

3. What did the poet do after the security check?

**Q6. Answer the following questions that follow in 60-80 words : ( 4x3=12)**

1. How did Franz find teaching and learning that day? why?

2. Mention the hazards of working in the glass bangles industry?

3. How does Saheb's life change when he starts working at the tea stall ?

4. How did Douglas overcome his fear of water ?

**Q7. Answer the following questions in 60 to 80 words . (2x3=6)**

1. How did the royal prince grow up?

2. Why do you think, was the maharaja in danger of losing his throne?

**Sample Paper UNIT TEST – I**

**CLASS – XII**

**SUBJECT – MATHEMATICS**

**TIME: 3 Hrs**

**M.M.50**

**General Instructions:**

- Section A consists of 4 questions of 1 mark each.
- Section B consists of 4 questions of 2 marks each.
- Section C consists of 5 questions of 4 marks each.
- Section D consists of 3 questions of 6 marks each.

### SECTION – A

Q-1 show that the function  $f : Z \rightarrow Z$  defined by  $f(x) = x^2 + x$  for all  $x \in Z$  is a many one function.

Q-2 Find  $P^{-1}$ , if it exists, given  $P = \begin{bmatrix} 10 & -2 \\ -5 & 1 \end{bmatrix}$ .

Q-3 Find the value of x from the matrix  $\begin{bmatrix} 2x - y & 5 \\ 3 & y \end{bmatrix} = \begin{bmatrix} 6 & 5 \\ 3 & -2 \end{bmatrix}$ . ?

Q-4 Show that the Modulus function  $f : R \rightarrow R$ , given by  $f(x) = |x|$  is neither one-one

### SECTION – B

Q-5 If  $f: R \rightarrow R$  given by  $f(x) = 4x+3$ . Show that  $f$  is invertible. Find the inverse of  $f$ .

Q-6 If  $A$  and  $B$  are symmetric matrices of the same order, then show that  $AB$  is symmetric if and only if  $A$  and  $B$  commute, that is  $AB=BA$ .

Q-7 Using determinants find the area of a triangle whose vertices are  $(1,4)$ ,  $(2,-3)$ ,  $(-5,-3)$

Q-8 If  $A=A = \begin{bmatrix} -2 \\ 4 \\ 5 \end{bmatrix}$ ,  $B = [1 \quad 3 \quad -6]$ , verify that  $(AB)' = B' A'$ .

### SECTION – C

Q-9 Determine which of the following binary operations on the set  $R$  are associative and which are commutative.

$$(a) a * b = 1 \quad \forall a, b \in R \quad (b) a * b = \frac{(a+b)}{2} \quad \forall a, b \in R$$

Q-10 Express the following matrix as the sum of symmetric and a skew symmetric matrix.

$$\begin{bmatrix} 3 & 5 \\ 1 & -1 \end{bmatrix}$$

Q-11 If  $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ , show that  $A^2 - 5A + 7I = 0$ . Hence find  $A^{-1}$ .

Q-12 Obtain the inverse of the following matrix using elementary operations

$$A = \begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 3 & 1 & 1 \end{bmatrix}.$$

Q-13 If  $x, y, z$  are different and

$$D = \begin{vmatrix} x & x^2 & 1 + x^3 \\ y & y^2 & 1 + y^3 \\ z & z^2 & 1 + z^3 \end{vmatrix} = 0 \text{ then show that } 1 + xyz = 0$$

#### SECTION – D

Q-14 Solve the following system of equations by matrix method.

$$3x - 2y + 3z = 8$$

$$2x + y - z = 1$$

$$4x - 3y + 2z = 4$$

Q-15 If  $A = \begin{bmatrix} \cos x & \sin x \\ -\sin x & \cos x \end{bmatrix}$ ;

$$\text{Prove that : } A^n = \begin{bmatrix} \cos nx & \sin nx \\ -\sin nx & \cos nx \end{bmatrix}, n \in N.$$

Q-16 Show that each of the relation  $R$  in the set  $A = \{x \in Z : 0 \leq x \leq 12\}$  given by

(i)  $R = \{(a, b) : |a - b| \text{ is a multiple of } 4\}$

(ii)  $R = \{(a, b) : a = b\}$  is an equivalence Relation.

**UNIT TEST(I) SAMPLE PAPER**

**PHYSICAL EDUCATION(048)**

**CLASS – XII(2019-20)**

**TIME: 2 HRS**

**M.M:50**

1. What is 'bye' (1)
2. What do you mean by planning? (1)
3. Define balanced diet. (1)
4. What are fats? (1)
5. What is Asthma? (1)
6. Enlist two objectives of intramurals. (3)
7. Briefly explain any two food myths. (3)
8. Elucidate the need of food supplement for children. (3)
9. Mention any five benefits of chakrasana. (3)
10. Briefly discuss about hypertension. (3)
11. Draw a knock out fixture of 11 teams mentioning all the steps involved. (5)
12. What do you mean by specific sports programmes? Explain any one. (5)
13. Discuss how five major components of diet can enhance the performance of a sportsperson. (5)
14. Elucidate about the various pitfalls of dieting in detail. (5)
15. What do you mean by Back pain? Discuss the procedure and benefits of Shalabhasana. (5)
16. What do you mean by diabetes? Discuss the procedure, benefits of Bhujangasana. (5)

**UNIT - I**  
**CLASS – XII**  
**SUBJECT – PHYSICS**

**TIME – 1.5 Hrs.**

**M.M – 50**

**GENERAL INSTRUCTIONS**

- All questions are compulsory.
  - Questions 1 to 5 carries 1 mark each
  - Questions 6 to 11 carries 2 marks each
  - Questions 12 to 17 carries 3 marks each
  - Questions 18 to 20 carries 5 marks each
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1. Why do the electrostatic field lines not form closed loops ?
  2. If a point charge is rotated in an arc of radius  $r$  around a charge  $q$ , what will be the work done ? Explain.
  3. If the radius of a copper wire is doubled , will its specific resistance increase, decrease or remain same ?
  4. Show variation of resistivity of Si with temperature in a graph.
  5. Define the current sensitivity of a galvanometer. Write its S.I unit
  6. In a parallel plate capacitor with air between the plates, each plate has an area of  $6 \times 10^{-3} \text{ m}^2$  and the distance between the plates is 3 mm. calculate the capacitance of the capacitor. If the capacitor is connected to a 100 V supply, what is the charge on each plate of the capacitor ?
  7. Explain the meaning of the statement “ electric charge of a body is quantized “.
  8. State Kirchhoff’s rules of current distribution in an electrical network.
  9. Define electric field intensity. Write its S.I unit.
  10. Why is Wheatstone bridge method not suitable for measurement of very low and very high resistances ?

11. Two electric bulbs whose resistances are in the ratio 1:2 are connected in parallel to a source of constant voltage. What will be the ratio of power dissipation in these wires ?
12. Derive an expression for the potential energy of an electric dipole of dipole moment  $p$  in an electric field  $E$ .
13. A proton and an electron are placed freely in an electric field. Which of the particle will have greater acceleration and why ?
14. Two heater coils made of same material are connected in parallel across the mains. The length and diameter of the wire of one of coil are doubled that of the other. Which one of them will produce more heat ?
15. Derive a relation between torque and dipole moment.
16. A silver wire has a resistance  $2.1 \Omega$  at  $27.5^{\circ} \text{C}$  and a resistance of  $2.7 \Omega$  at  $100^{\circ} \text{C}$ . Determine the temperature coefficient of the resistivity of silver.
17. Deduce ohm's law using the concept of drift velocity.
18. Find an expression for the electric field strength at any distant point due to electric dipole.
19. On which principle potentiometer works. Explain the working of potentiometer using diagram?
20. Briefly explain the principle of a capacitor. Derive an expression for the capacitance of a parallel plate capacitor, whose plates are separated by a dielectric medium.

### **Unit Test-I**

#### **Class XII**

#### **Subject: Biology**

**Time : 2 Hr**

**M.M:50**

#### **General instructions:**

- All questions are compulsory
- Q.1 to Q.5 are of 1 mark
- Q.6 to Q.11 are of 2 marks
- Q.12 to Q.17 are of 3 marks

- Q.18 to Q.20 are of 5 marks

Q1. What is the major difference you observe in the offsprings produced by asexual reproduction and in the progeny produced by sexual reproduction?

Q2. A bilobed, dithecous anther has 100 microspore mother cells per microsporangium. How many male gametophyte can it produce?

Q3. Write the full name of the following terms:

- i. STD
- ii. MTP

Q4. What is the units of heredity?

Q5. Give an example of lethal gene.

Q6. Define the F1 and F2 generation.

Q7. Why do we refer to offspring formed by asexual method of reproduction as clones?

Q8. Differentiate between Monoecious and Dioecious plants. Give one example of each.

Q9. How does Cu-T act as an effective contraceptive for human females?

Q10. Mention the site where syngamy occurs in amphibians and reptiles.

Q11. Write the possible genotype for the blood group A & B.

Q12. Where are the Leydig cells present? What is their role in reproduction?

Q13. Removal of gonads cannot be considered as a contraceptive option, why?

Q14. What is Pedigree analysis?

Q15. What is Parthenogenesis? Give two examples from animals?

Q16. Draw a diagram of a male gametophyte of Angiosperm. Label any four parts.

Q17. Mention the functions of Trophoblast in human embryo?

Q18. Describe the structure of a bilobed and dithecous anther as seen in transverse section.

Q19. A plant of *Antirrhinum majus* with red flowers was crossed with another plant of the same species with white flower. The plant of the F<sub>1</sub> generation bore pink flowers. Explain the pattern of inheritance with the help of cross.

Q20. Write note on the following:

- i. Test tube baby programme
- ii. Amniocentesis

## UNIT TEST (I) SAMPLE PAPER

### XII

### CHEMISTRY

**TIME: 2Hrs**

**M.M: 50**

#### General Instruction:

- (i) Question numbers 1 to 5 are one mark questions.
- (ii) Question numbers 6 to 12 are two marks questions.
- (iii) Question numbers 13 to 19 are three marks questions.
- (iv) Question numbers 20 to 21 are five marks questions.

1. Define the 'forbidden zone' of an insulator.
2. Mention two ways by which lyophilic colloids can be coagulated.
3. Why does NaCl become yellow on heating in Na vapours?
4. A warm solution is obtained on mixing A and B. what type of deviation does this solution show?
5. Out of KCl and K<sub>2</sub>SO<sub>4</sub>, which is more effective in causing coagulation of a positive sol?
6. Derive an equation to express that relative lowering of vapour pressure for a solution is equal to the mole fraction of the solute in it when the solvent alone is volatile.
7. The conductivity of 0.20 M solution of KCl at 298 K is 0.0248 S cm<sup>-1</sup>. Calculate its molar conductivity in this solution.

8. The half-life for radioactive  $^{14}\text{C}$  is 5730 years. The wooden part of an archaeological artefact has only 80% of the  $^{14}\text{C}$  activity found in fresh wood. Calculate the age of the artefact.
9. Depict the galvanic cell in which the following reaction takes place:  

$$\text{Zn (s)} + 2\text{Ag}^+ (\text{aq}) \rightarrow \text{Zn}^{2+}(\text{aq}) + 2\text{Ag (s)}$$
 Also indicate that in this cell which electrode is negatively charged.
10. Three conductivity cells A, B and C containing solutions of zinc sulphate, silver nitrate and copper sulphate respectively are connected in series. A steady current of 1.5 amperes is passed through them until 1.45 g of silver is deposited at the cathode of cell B. How long did the current flow? What mass of copper and what mass of zinc got deposited in their respective cells? (Atomic mass : Zn = 65.4 u, Ag = 108 u, Cu = 63.5 u).
11. 1 gram each of two solutes 'A' and 'B' (molar mass of A > molar mass of B) Are dissolved separately in 100 g each of the same solvent. Which solute will show greater elevation in boiling point and Why?
12. Why are reactions of high order very rare?
13. Describe the composition of anode and cathode in a mercury cell. Write the electrode reactions for this cell. Why does it provide constant voltage throughout its life?
14. Give reasons for the following:–
  - (a) RBC swell up and finally burst when placed in 0.1% NaCl solution.
  - (b) When fruits and vegetables that have been dried are placed in water, they slowly swell and return to original form.
  - (c) A person suffering from high blood pressure is advised to take less amount of table salt
15. A first order reaction is 40% complete in 50 minutes. Calculate the value of rate constant. In what time will the reaction be 80% complete?
16. a) How does it become possible to cause artificial rain by spraying silver iodide on clouds?  
 b) How does a delta form at meeting place of sea and river water?  
 c) Why does bleeding stops by rubbing moist alum?
17. A metal crystallises into two cubic lattices fcc and bcc, whose edge length are  $3.5\text{\AA}$  and  $3.0\text{\AA}$  respectively. Calculate the ratio of the densities of fcc and bcc lattices.
18. For a dilute solution containing 2.5 g of a non-volatile non-electrolyte solute in 100 g of water, the elevation in boiling point at 1 atm pressure is  $2^\circ\text{C}$ . Assuming concentration of solute is much lower than the concentration of solvent, determine

the vapor pressure (mm of Hg) of the solution. [Given:  $K_b$  for water =  $0.76 \text{ kg mole}^{-1}$ ].

19. State the relationship amongst cell constant of a cell, resistance of the solution in the cell and conductivity of the solution. How is molar conductivity of a solute related to conductivity of its solution?
20. A metallic element has a body centered cubic lattice. Edge length of unitcell is  $2.88 \times 10^{-8} \text{ cm}$ . The density of the metal is  $7.20 \text{ gcm}^{-3}$ . Calculate (a) the volume of unit cell.  
(b) Mass of unit cell. (c) Number of atoms in 100 g of metal.
21. 2g of  $\text{C}_6\text{H}_5\text{COOH}$  dissolved in 25g of benzene shows depression in freezing point equal to 1.62K. Molar freezing point depression constant for benzene is  $4.9 \text{ K kg mol}^{-1}$ . What is the percentage association of acid if it forms a dimer in solution?