

- Q 1 (a) What is JAVA? Give any 3 features of JAVA? (2)
- (b) What do you mean by Syntax and Semantics of a programming language? (2)
- (c) What are the different datatypes available in JAVA. Support your answer with example. (2)
- (d) Give any 3 rules for naming a variable in JAVA? (2)
- (e) Difference between gettext() and SetText ()? (1)
- Q2 (a) Give the different types of operators in JAVA. Discuss in detail with example. (3)
- (b) Is a string containing a single character same as char? (1)
- Q3 (a) Write about 5 lines on- (4)
- (i) Virus
- (ii) Worms
- (b) Name any 2 names of antiviruses. (1)

Q4. In the form of given below identify the controls used.



Enter 1 <sup>st</sup> no:	<input type="text"/>
Enter 2 <sup>nd</sup> no:	<input type="text"/>
	<input type="button" value="ADD"/>
Result:	<input type="text"/>

Also write the coding to find the sum of two numbers.

10/11/17

**UNIT TEST II (2016-2017)**  
**CLASS XI**  
**SUBJECT : MATHS**

**BB**

**Time : 1 Hour**

**M.M. : 20**

*General Instructions:*

1. All questions are compulsory.
2. Question No. 1-2 carry one mark each.
3. Question nos. 3-5 carry two marks each.
4. Question no. 6-8 carry four marks each.

1. Find the 13th term in the expansion of  $\left(9x - \frac{1}{3\sqrt{x}}\right)^{15}$ ,  
 $x \neq 0$ .

2. How many terms of G.P.  $3, \frac{3}{2}, \frac{3}{4}, \dots$  are needed to  
given the sum  $\frac{3069}{512}$ ?

3. Between 1 and 31,  $m$  numbers have been inserted in  
such a way that the resulting sequence is a A.P. and  
the ratio of 7th and  $(m-1)$ th numbers is 5 : 9. Find  
the value of  $m$ .

4. If the coefficients of  $(r-5)$ th and  $(2r - 1)$ th terms in  
the expansion of  $(1 + x)^{34}$  are equal, find  $r$ .

5. Find the middle term(s) in the expansion of

$$\left(\frac{p}{x} + \frac{x}{p}\right)^y.$$

6. The first three terms in the expansion of  $(x + y)^n$  are 1, 56 and 1372 respectively. Find the values of  $x$  and  $y$ .
7. Find the sum of  $n$  terms in the series  $0.5 + 0.55 + 0.555 + \dots$   $n$  terms.
8. Find the sum of first  $n$  terms of the series:  
 $3 + 7 + 13 + 21 + 31 + \dots$

UNIT TEST II (2016-2017)

BB

CLASS XI

SUBJECT : ENGLISH

22/12/2016  
M.M. : 20

Time : 1 Hour

1. You are Utkarsh living at Wazirpur Delhi. You wish to sell off your apartment. Draft an advertisement for the classified columns of a national daily giving all the required details. 5

2. Read the extract given below and answer the questions that follow :

When did my childhood go ?

Was it the time I realised that adults were not

All they seemed to be,

They talked of love and preached of love

But did not act so lovingly

Was that the day?

a) What is the confusion faced by the poet? 1

b) What is the poet's perception about the adults as a child? 1

c) What change does the poet face as he grows up? 1

3. Answer the following questions in 30 to 40 words: 3. 6
- a) How was a 'melon' chosen to be the new king?
  - b) How are the biological systems endangered by the human beings?
4. Answer the following question in 100 words: 6
- Throw light on Yuri's role in Einstein's life.

SUBJECT : PHYSICAL EDUCATION

Time : 1 Hour

M.M. : 20

- Q1. What are stimulants? (1)
- Q2. What do you mean by physical activity? (1)
- Q3. Define environment. (1)
- Q4. Define behaviour. (1)
- Q5. What is muscular endurance? (3)
- Q6. Name and explain the types of doping. (3)
- Q7. What is doping? Write in detail about the prohibited methods of taking these substances? (5)
- Q8. What do you understand by positive environment. (5)

## UNIT TEST II (2016-2017)

BB

## CLASS XI

## SUBJECT : CHEMISTRY

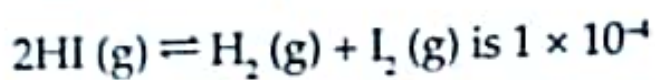
Time : 1 Hour

12/1/17

M.M. : 20

Q. 1. Write the conditions in terms of  $\Delta H$  and  $\Delta S$  when a reaction would always be spontaneous? (1)

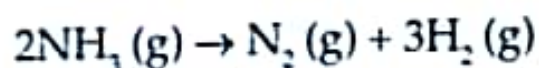
Q. 2. The value of  $K_c$  for the reaction: (1)



At a given time, the composition of reaction mixture is:

$[\text{HI}] = 2 \times 10^{-5} \text{ mol}$ ,  $[\text{H}_2] = 1 \times 10^{-5} \text{ mol}$  and  $[\text{I}_2] = 1 \times 10^{-5} \text{ mol}$ . In which direction will the reaction proceed.

Q. 3. The value of  $\Delta H^\circ$  for  $\text{NH}_3$  is  $-91.8 \text{ kJ mol}^{-1}$ . Calculate enthalpy change for the following reaction: (1)



Q. 4.  $\text{BF}_3$  does not have a proton but still acts as an acid and reacts with  $\text{NH}_3$ . Why is it so? (1)

Q. 5. The solubility product constant of  $\text{Ag}_2\text{CrO}_4$  and  $\text{AgBr}$  are  $1.1 \times 10^{-22}$  and  $5 \times 10^{-13}$  respectively. Calculate the ratio of molarities of their saturated solutions. (2)

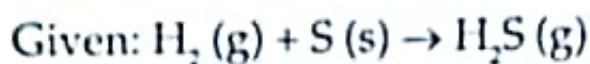
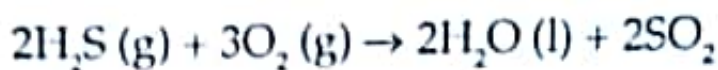
Q. 6. Calculate pH of mixture: (2)

10 mL of 0.2M  $\text{Ca(OH)}_2$  + 25 mL of 0.1 M HCl

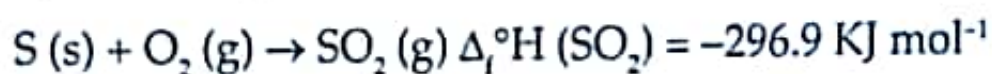
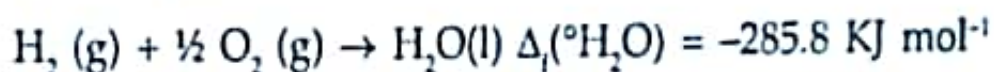


Q. 7. Why do we add  $\text{NH}_4\text{Cl}$  before adding  $\text{NH}_4\text{OH}$  for precipitation of group 3 cations. (2)

Q. 8. Calculate the value of  $\Delta_r H^\circ$  for the reaction: (2)

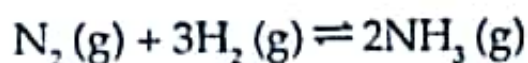


$$\Delta_f H^\circ(\text{H}_2\text{S}) = 20.1 \text{ KJ mol}^{-1}$$



Q. 9. Define buffer solution. Explain buffer action of any acidic buffer solution. (3)

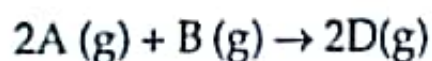
Q. 10. Consider the reaction: (2)



(a) On increasing pressure, in which direction will the gas phase reaction proceed to re-establish equilibrium.

(b) What will be effect of addition of  $\text{H}_2$  at equilibrium.

Q. 11. For the reaction: (3)



$\Delta U = -10.5 \text{ KJ}$  and  $\Delta S = -44 \text{ JK}^{-1}$ . Calculate  $\Delta G^\circ$  for reaction and predict whether reaction may occur spontaneously.

(Given  $R = 8.314 \text{ JK}^{-1} \text{ mol}^{-1}$ ,  $T = 298 \text{ K}$ )

UNIT TEST II (2016-2017)

BB

CLASS XI

SUBJECT : PHYSICS

Time : 1 Hour

16/1/17

M.M. : 20

2- Marks

1. The length of a metal wire is  $l_1$  when the tension in it is  $T_1$  and  $l_2$  when the tension in it is  $T_2$ . Find the original length of the wire.
2. Describe stress- strain relationship for a loaded steel wire on the basis of stress – strain curve.
3. Draw a graph showing the variation of acceleration due to gravity with (i) Height above the earth's surface and (ii) Depth below the earth's surface.
4. State and derive Kepler's law of Area.

3-Marks

5. Define the term gravitational field. Show that acceleration due to gravity is equal to the intensity of the gravitational field at any point.
6. Derive an expression for the elastic potential energy stored per unit volume in a stretched wire under stress.
7. What is escape velocity? Prove that escape velocity from the surface of earth is 11.2 km/s.

8. Two bodies of masses  $m_1$  and  $m_2$  are placed at a distance  $r$  apart. Show that the position where the gravitational field due to them is zero, the potential is given by

$$V = -G(m_1 + m_2 + 2\sqrt{m_1 m_2})/r$$

Time : 1 Hour

M.M. : 20

General Instructions:

16/1/17

- Attempt all questions
  - Marks to each question are given alongside the question.
- Q 1. Mention *two* technological changes that took place in agriculture in 11<sup>th</sup> century Europe. (2)
- Q 2. Who were serfs? How were they different from free peasants? (2)
- Q 3. Name *two* Italian women who rose to prominence in the Renaissance period due to their education and courage? (2)
- Q 4. Who were Anabaptists? (2)
- Q 5. What were the factors that led to the 14<sup>th</sup> century 'crisis' in Europe? (4)
- Q 6. What was the role of the Nobility in medieval Europe? Describe their privileges. (4)
- Q 7. How did artists create a sense of 'realism' in art? Name *two* important artists of the Renaissance period. (3+1=4)

19/1/17

UNIT TEST II (2016-2017)

BB

CLASS XI

SUBJECT : BIOLOGY

Time : 1 Hour

M.M. : 20

- 1 What do you mean by Glomerulonephritis? 1
- 2 Draw the structure of Meromyosin. 1
- 3 Write the function of Angiotensin in Kidney regulation. 1
- 4 Differentiate between Gout and Arthritis. 1
- 5 Discuss the role of the following : 2
  - a) Opsin.
  - b) Eustachian tube.
- 6 Explain sliding filament theory 3

OR

Explain Rib cage and Vertebral column.

- 7 Explain the mechanism of generation and conduction of nerve impulse. 3
- 8 Explain the mechanism of counter current in kidney. 3
- 9 Name the source gland/cells and function of each hormone. 5
  - a) ADH

- b) Calcitonin
- c) Glucagon
- d) LH
- e) ACTH.

OR

- (a) Explain the mechanism of breathing. (3)
- (b) Write a note on Emphysema & ORD. (2)

UNIT TEST II (2016-2017)

BB

CLASS XI

SUBJECT : POLITICAL SCIENCE

Time : 3 Hours

M.M. : 80

Important Instructions:

12/1/17

- Attempt all the questions.
  - Question no.s 1-4 are of 1 mark each and should be attempted in a sentence or 20-40 words.
  - Question no.s 5-6 are of 2 marks each and should be attempted in 40-60 words.
  - Question no.s 7-9 are of 4 marks each and should be attempted in 80-100 words.
1. Name the present Chief Justice of the Supreme Court of India.
  2. Why do we need an independent judiciary?
  3. What is a Federation?
  4. Name any two constitutional features of a Federation that Jammu and Kashmir enjoys in India.
  5. Explain any two features to show that India has an independent judiciary.
  6. Explain any two constitutional features to show that India is a federation with a strong central government.

7. Discuss any four jurisdictions of the Supreme Court of India.
8. Critically discuss any four issues of conflicts in India's federal system.
9. What is meant by the constitutional feature of 'Division of Powers'.



UNIT TEST II (2016-2017)  
CLASS XI  
SUBJECT : BIOTECHNOLOGY

BB

26/12/16

Time : 1 Hour

M.M. : 20

- 1 Write three examples of stop codons. 1
- 2 Name any two databases and information stored in them. 1
- 3 Write the significance of Golden rice. 1
- 4 Differentiate between SCID and AIDS. 1
- 5 Explain various structures of proteins. 2
- 6 Explain peptide mapping. 3
- 7 Expand BLAST and write its significance. 3
- 8 Write various microbial cell culture centres and microbial culture applications. 3
- 9 Explain 2D GEL electrophoresis. 5

OR

Explain MASS SPECTROMETER in full details.

Time : 1 Hour

21/1/17

M.M. : 20

- Q1. What is 'Credit note'? (1)
- Q2. Which type of goods can be traded by a 'Mail Order Business'? (1)
- Q3. State and explain one way in which small businesses help in economic development. (1)
- Q4. Mr. Arman started a business of manufacturing soaps. He had a very good network of distribution in the market. But his business could not succeed as he was not able to manufacture the desired quality of soaps. He then decided to start a new business. He now purchases the entire production of soaps of Care Soaps Pvt, Ltd. and sells it to various shop owners in Delhi. In this process he helps Care Soaps Ltd. by providing various services. Explain any three services provided by Mr. Arman to Care Soaps Pvt. Ltd. (3)
- Q5. State and explain one source of funds that is regulated by each of the following authorities: (3)
- (i) Securities and Exchange Board of India
- (ii) Reserve Bank of India (3)
- Q6. (i) Write a short note on NSIC. (2+3=5)

- (ii) Mr. Ayushman Mehra wants to start business of manufacturing iron rods that will be used by other enterprises as raw material in construction projects. Explain three incentives he will receive from the government if he sets up his manufacturing unit in a remote area, with an investment of Rs. 1 crore.

Q7. Ashwill Ltd. is a well established company in North India. After capturing the North Indian market, Ashwill Ltd. now wants to expand its operations in south India as well. This expansion will include fund requirement for setting up three new factories. The board of directors want to raise funds from such a source that would provide not only funds but also the technical advice for strategic expansion of the business. Identify and explain the suitable source of finance that should be used by Ashwill Ltd. Also explain three merits and two demerits of this source.

(6)

Time : 1½ Hours

16/1/17

M.M. : 20

- Q1. ABC Ltd purchased a second hand machine on 1<sup>st</sup> October 2013 and paid Rs 1,50,000 for it. On 1<sup>st</sup> January 2015, another machinery costing Rs 60,000 was purchased. On 1<sup>st</sup> April 2015 half of the machine purchased on 1<sup>st</sup> October 2013 was disposed off for Rs 60,000 and a new machinery costing Rs 2,00,000 was installed. Depreciation was provided 10% p.a. by Straight Line Method .Give the machinery account for 3 years. Firm's books are closed on 31<sup>st</sup> March. (5)
- Q2. From the following particulars, you are required to ascertain the bank balance as would appear in the cash book of Ram as on 31<sup>st</sup> October 2014 : (7)
- 1) Bank pass book showed a debit balance of RS 16,000 on 31<sup>st</sup> October.
  - 2) Cheques issued on 22<sup>nd</sup> September, 2014 RS 500, RS 600 & RS 700 but cheque amounted Rs 600 was presented on 3<sup>rd</sup> November 2014.
  - 3) Cheque of RS 2,000 deposited in the bank in October 2014 but not collected and credited till 4<sup>th</sup> November 2014.

- 4) A discounted bill of exchange dishonoured RS 1,000.
- 5) A bill for RS 10,000 was retired by the bank under a rebate of RS 100 but the full amount of the bill was credited in the bank column of the cash book.
- 6) A post dated cheque for RS 300 has been debited in the bank column of the cash book but it could not have been presented in any case.
- 7) Bank charges RS 25 & dividend of RS 350 on investment collected by bank could not be shown in the cash book.

Q3. The bookkeeper of a firm found that his Trial Balance was out (excess credit) by RS 850. He placed the amount in a Suspense Account and subsequently found the following errors. (8)

- 1) The total of the Purchase Return Book was Rs 100 short.
- 2) A sale of RS 275 to Khanna was posted to Khanna 's account as Rs 175.
- 3) Rs 200 paid to P.Basu was credited to the account of N.Basu.
- 4) A sum of RS 220 written off from Fixtures as depreciation has not been posted to the Depreciation account.



- 5) Repairs bill for the proprietor's personal car, RS 200, has been paid by the firm and debited to the repairs account.
- 6) Purchase of office furniture worth RS 500 on credit from Haryana Furniture's was entered in the purchase book.
- 7) Goods purchased from Mohan for RS 6,000 was recorded as sale of goods.

Rectify the errors by means of Journal entries , show the Suspense Account & comment on it.

AIR FORCE BAL BHARATI SCHOOL  
ANNUAL EXAMINATION, SA-II – 2017

PAINTING (THEORY)  
CLASS XI

Max. Marks : 40

Time : 2 Hr

**General Instructions :**

1. All eight questions are compulsory, which carry equal marks.
2. Answers to be written for Q1 to Q5 in 200 words each and Q6, Q7 & Q8 objective type.

- Q1 Identify the different time periods of Bhimbetka cave paintings and explain on the basis of their style and technique. 5
- Q2 Discuss in detail the Bodhisattva head from Taxila. 5
- Q3 Write an essay about the symbolic significance of the famous Hindu icon 'Shiva Natraja' from chola period. 5
- Q4 Describe the architectural detail of Gol Gumbaz (Bijapur). 5
- Q5 . Write short note on :-  
a) Mother goddess (Mohenjodaro)  
b) Jain Tirthankara (Gupta period) 5
- Q6 Write the name of the three different forms of Lord Shiva in the famous sculpture "Trimurti" and also mention the time period and the location. 5
- Q7 Mention the location, medium, time period and the founder of the famous monument "Qutb Minar". 5
- Q8 Write the name of Mara's ten fold army depicted in the relief sculpture "Mara Vijaya" in Ajanta cave number 26. 5

28/12/16

AIR FORCE BAL BHARATI SCHOOL  
UNIT TEST – II (2016)

PAINTING (THEORY)  
CLASS-XI

Max. Marks : 20

Time : 1 Hr

**General Instructions :**

*All four questions are compulsory and carry equal marks.*

- |    |  |   |
|----|--|---|
| Q1 | Describe in detail the famous monolith relief sculpture "Descent of Ganges". | 5 |
| Q2 | Write in detail about the architectural features of Gol Gumbaj (Bijapur).    | 5 |
| Q3 | Describe the symbolic aspect of the famous Chola sculpture "Natraja".        | 5 |
| Q4 | Discuss in detail about the sculpture.<br>a) Trimurti<br>b) Qutb Minar       | 5 |