



# **SALWAN PUBLIC SCHOOL**

**Sector-15 (II), Gurgaon**

## ***Holiday Home Work***

**(2017-18)**

**CLASS – XI**

# English

## ASSIGNMENT 1

*“Reading is to the mind what exercise is to the body” – Joseph Addison*

- ❖ Exercise your brain cells and answer the following questions from the chapters of ‘The Canterville Ghost’.
- ❖ Do the given assignments in your Literature Register.

### Chapter 1

**VOCABULARY BUILDING – Complete the table given below**

WORD	MEANING	INSTRUCTIONS
Punctilious	Meaning?	Part of speech?
Word from the chapter?	Lively	Use the word in a sentence
Impresarios	Meaning?	Origin of the word?
Word from the chapter?	A tall and strong woman	Another meaning?
Quaint	Meaning?	Antonym?
Word from the chapter?	Sad and serious	3 more synonyms?
Providence	Meaning?	Use the word in a sentence
Lithe	Meaning?	Pronunciation?

#### Comprehension Questions (40-60 words)

- Q.1 What details did Lord Canterville give Mr Otis about Canterville Chase and why?
- Q.2 Who was Mrs Umney? What explanation did she offer for the blood stain in the sitting room?

#### Long Answer Questions ( 120-150 words)

- Q.1 Mr Otis is a man of remarkable character. Narrate the incidents that highlight his sense of humour, presence of mind, confidence and practical approach to life.
- Q.2 What do you think about the Otis family? What is your impression of the each member of the family?

## Chapter 2

**VOCABULARY BUILDING** –Find 10 unfamiliar words from the chapter and complete the table in the given format.

Word	What I think it means	Actual dictionary meaning	How it is used in context

### Comprehension Questions (40-60 words)

Q.1 Mr Otis remained unruffled during his first encounter with the ghost. Comment.

Q.2 What was the ghost's state of mind after his first encounter with Mr Otis?

### Long Answer Question ( 120-150 words)

Q.1 The ghost was proud of his past achievements. Elaborate

## Chapter 3

**VOCABULARY BUILDING:** Write the meanings of the following expressions. You can search the net.

- a. Chameleon like colour
- b. Dr Dobell's tincture
- c. Spectre in armour
- d. Demoniac laughter
- e. Palsy twitching fingers
- f. Stifling sensation of nightmare
- g. perdition

### Comprehension Questions (40-60 words)

Q.1 The next morning, when the Otis family met at breakfast, they discussed the ghost at some length. Write a note on the Otis family's reaction to the ghost.

Q.2 Virginia's reaction was different from other members of her family. What is your impression of Virginia?

### Long Answer Questions (120-150 words)

Q.1 Describe the second appearance of the ghost.

Q.2 Discuss the ghost's plans to scare the family.

## Chapter 4

### Long Answer Questions ( 120-150 words)

Q.1 Why did the Canterville ghost resolve to give up the point of the blood stain?

Q.2 What foiled the ghost's efforts to punish the twins?

Q.3 What final blow did the ghost receive from the family?

Q.4 What changes occurred in the Otis family when the ghost did not appear?

## Chapter 5

### Long Answer Questions ( 120-150 words)

Q.1 How did Virginia happen to meet the ghost?

Q.2 What did Virginia and the ghost talk about? What kind of help did the ghost want from Virginia?

Q.3 'Death must be beautiful', says the ghost. Elucidate

## Chapter 6

**Read and elaborate on each of the following incidents in the chapter in about 120-150 words:**

1. The Otis family's efforts to search Virginia

2. Duke of Cheshire's concern and desperation to find Virginia

3. Virginia's appearance in the hall

4. Virginia's revelation about the ghost to her family

## Chapter 7

Q.1 Describe the funeral procession of Sir Simon.

Q.2 Write the reasons in points:

Reasons given by Mr Otis for not accepting the jewels given to Virginia by Sir Simon	Reasons for Lord Canterville's refusal to take back the jewels given to Virginia by Sir Simon

## ASSIGNMENT 2

### NOTE MAKING PASSAGE FOR PRACTICE

**Read the passage given below :**

1. In a very short period of time the internet has had a profound impact on the way we live. Since the Internet was made operational in 1983, it has lowered both the costs of communication and the barriers to creative expression. It has challenged old business models and enabled new ones. It has provided access to information on a scale never before achievable.
2. It succeeded because we designed it to be flexible and open. These two features have allowed it to accommodate innovation without massive changes to its infrastructure. An open, border less and standardized platform means that barriers to entry are low competition is high, interoperability is assured and innovation is rapid.
3. The beauty of an open platform is that there are no gatekeepers. For centuries, access to and creation of information was controlled by the few. The internet has changed that and is rapidly becoming the platform for everyone, by everyone.
4. Of course, it still has a way to go. Today there are only about 2.3 billion internet users, representing roughly 30% of the world's population. Much of the information that they can access online is in English, but this is changing rapidly.
5. The technological progress of the internet has also set social change in motion. As with other enabling inventions before it, from the telegraph to television, some will worry about the effects of broader access to information -- the printing press and the rise in literacy that it effected were, after all, long seen as destabilizing. Similar concerns about the internet are occasionally raised, but if we take a long view, I'm confident that its benefits far outweigh the discomforts of learning to integrate it into our lives. The internet and the World Wide Web are what they are because literally millions of people have made it so. It is a grand collaboration.
6. It would be foolish not to acknowledge that the openness of the internet has had a price. Security is an increasingly important issue and cannot be ignored. If there is an area of vital research and development for the internet, this is one of them. I am increasingly confident, however, that techniques and practices exist to make the internet safer and more secure while retaining its essentially open quality.
7. After working on the internet and its predecessors for over four decades, I'm more optimistic about its promise than I have ever been. We are all free to innovate on the net every day. The internet is a tool of the people, built by the people for the people and it must stay that way.

**(a) On the basis of your reading of the above passage make notes on it using recognizable abbreviations (minimum four) wherever necessary. Use a format you consider appropriate. Supply a suitable title. (5 marks)**

**(b) Write a summary of the passage in about 80 words. (3 marks)**

# Maths

## Worksheet1

Q1: Find the value of the following trigonometric ratios:

- (i)  $\sin \frac{5\pi}{3}$       (ii)  $\sin 3060^\circ$       (iii)  $\sin 510^\circ$       (iv)  $\operatorname{cosec}(-1200^\circ)$   
(v)  $\tan(-585^\circ)$       (vi)  $\sin 1845^\circ$       (vii)  $\cos 1755^\circ$       (viii)  $\sin 4530^\circ$

Q2: Prove that :

- (i)  $\tan 225^\circ \cot 405^\circ + \tan 765^\circ \cot 675^\circ = 0$   
(ii)  $\cos 24^\circ + \cos 55^\circ + \cos 125^\circ + \cos 204^\circ + \cos 300^\circ = \frac{1}{2}$   
(iii)  $\tan(-225^\circ) \cot(-405^\circ) - \tan(-765^\circ) \cot(675^\circ) = 0$   
(iv)  $\cos 570^\circ \sin 510^\circ + \sin(-330^\circ) \cos(-390^\circ) = 0$   
(v)  $\tan \frac{11\pi}{3} - 2 \sin \frac{4\pi}{6} - \frac{3}{4} \operatorname{cosec}^2 \frac{\pi}{4} + 4 \cos^2 \frac{17\pi}{6} = \frac{3-4\sqrt{3}}{2}$

Q3: Prove that :

- (i)  $\frac{\cos(2\pi + \theta) \operatorname{cosec}(2\pi + \theta) \tan(\pi/2 + \theta)}{\sec(\pi/2 + \theta) \cos \theta \cot(\pi + \theta)} = 1$   
(ii)  $\frac{\operatorname{cosec}(90^\circ + \theta) + \cot(450^\circ + \theta)}{\operatorname{cosec}(90^\circ - \theta) + \tan(180^\circ - \theta)} + \frac{(\tan 180^\circ + \theta) + \sec(180^\circ - \theta)}{\tan(360^\circ + \theta) - \sec(-\theta)} = 2$   
(iii)  $\frac{\sin(180^\circ + \theta) \cos(90^\circ + \theta) \tan(270^\circ - \theta) \cot(360^\circ - \theta)}{\sin(360^\circ - \theta) \cos(360^\circ + \theta) \operatorname{cosec}(-\theta) \sin(270^\circ + \theta)} = 1$

Q4: Prove that :  $\sin^2 \frac{\pi}{18} + \sin^2 \frac{\pi}{9} + \sin^2 \frac{7\pi}{18} + \sin^2 \frac{4\pi}{9} = 2$

Q5: Prove that :  $\sec\left(\frac{3\pi}{2} - \theta\right) \sec\left(\theta - \frac{5\pi}{2}\right) + \tan\left(\frac{5\pi}{2} + \theta\right) \tan\left(\theta - \frac{3\pi}{2}\right) = -1$

Q6: Find  $x$  from the following equations:

(i)  $\operatorname{cosec}(90^\circ + \theta) + x \cos \theta \cot(90^\circ + \theta) = \sin(90^\circ + \theta)$

(ii)  $x \cot(90^\circ + \theta) + \tan(90^\circ + \theta) \sin \theta + \operatorname{cosec}(90^\circ + \theta) = 0$

## Worksheet 2

Q1 If  $A = \{x : |x| \leq 5, x \in \mathbb{Z}\}$  Write  $A$  in roster form.

Q2 Find the value of  $\tan\left(\frac{11\pi}{4}\right)$

Q3 Determine the domain and range of the relation  $R$  defined by  $R = \{(x, x + 5) : x \in \{0, 1, 2, 3, 4, 5\}\}$ .

Q4 If  $n(A - B) = 30$ ,  $n(B - A) = 50$  and  $n(A \cap B) = 20$ , find  $n(A \cup B)$ .

Q5 Let  $A = \{x, y, z\}$  and  $B = \{1, 2\}$ . Find the number of relations from  $A$  to  $B$ .

Q6  $A = \{x : |x| < 5, x \in \mathbb{Z}\}$ ,  $B = \{x : x = 2n + 1, n \in \mathbb{N}, x < 10\}$

$C = \{x : x \text{ is a whole number ; } x \leq 4\}$ .

Find (i)  $A \cap (B \cup C)$  (ii)  $(A \cap B) \cup (A \cap C)$

Q7 If  $U = \{x : x \in \mathbb{Z} \text{ and } -5 \leq x \leq 5\}$ ,  $A = \{2x : x \in \mathbb{Z} \text{ and } 0 < x < 3\}$ ,

$B = \{(x + 1) : x \in \mathbb{Z} \text{ and } -5 < x \leq 4\}$  and  $C = \{x : x \in \mathbb{Z} \text{ and } x^2 + 3x + 2 = 0\}$  find

(i)  $(A \cup C) \cap B'$  (ii)  $(A \cup B \cup C)'$

Q8 Determine the domain and range of the following relation

Let  $A = \{x : x \in \mathbb{N}, 2 \leq x < 9\}$ ,  $B = \{y : y \in \mathbb{N}, 3 < y \leq 7\}$  and

$R = \{(x, y) : x \in A, y \in B, x \text{ and } y \text{ are coprime}\}$ , then (i) Write  $R$  in roster form

(ii) Find domain and range

Q9 Find domain of the function  $f(x) = \frac{\sqrt{x-1} + \sqrt{10-x}}{\sqrt{9-x^2}}$

Q10 If in two circles, arcs of the same length subtend angles  $60^\circ$  and  $75^\circ$  at the centre, find the ratio of their radii.

Q11 Write the following as intervals:

(i)  $\{x : x \in \mathbb{R}, -3 < x \leq 7\}$  (ii)  $\{x : x \in \mathbb{R}, -2 < x\}$  (iii)  $\{x : x \in \mathbb{R}, x < 11\}$  (iv)  $\{x : x \in \mathbb{R}, 2 \leq x \leq 9\}$

Q12 Write the following sets in the set builder form:

(i)  $\{1, 8, 27, 64, 125\}$  (ii)  $\{2, 6, 12, 20, 30, 42\}$  (iii)  $\{P, R, I, C, L, E, N\}$   
 (iv)  $\{2, 4, 8, 16, 32, \dots\}$  (v)  $\{3, 6, 11, 18, 27, 38\}$  (vi)  $\{\{\}, \{1\}, \{2\}, \{1, 2\}\}$ .

a) If  $g$  is a real function defined by  $g(x) = \frac{x-1}{x+1}$ , then prove that  $g(2x) = \frac{3g(x)+1}{g(x)+3}$ .

Q13

b) Find the domain of the function  $f(x)$  defined by  $f(x) = \sqrt{4-x} + \frac{1}{\sqrt{x^2-1}}$ .

Q14 Evaluate:

a) 
$$\frac{\operatorname{cosec}(90^\circ + \theta) + \cot(450^\circ + \theta)}{\operatorname{cosec}(90^\circ - \theta) + \tan(180^\circ - \theta)} + \frac{(\tan 180^\circ + \theta) + \sec(180^\circ - \theta)}{\tan(360^\circ + \theta) - \sec(-\theta)}$$

b) 
$$\tan \frac{11\pi}{3} - 2 \sin \frac{4\pi}{6} - \frac{3}{4} \operatorname{cosec}^2 \frac{\pi}{4} + 4 \cos^2 \frac{17\pi}{6}$$

c) Find  $x : x \cot(90^\circ + \theta) + \tan(90^\circ + \theta) \sin \theta + \operatorname{cosec}(90^\circ + \theta) = 0$

Q15 Let  $A = \{1, 2, 3, \dots, 14\}$ . Define a relation  $R$  from  $A$  to  $A$  by  $R = \{(x, y) : 3x - y = 0, \text{ where } x, y \in A\}$ . Depict this relationship using an arrow diagram. Write down its domain, co domain and range.

(ii) Find the domain and range of the following relations.

i)  $R = \{(x, y) : x, y \in \mathbb{N}, y = x^2 + 3 \text{ and } 0 < x < 5\}$

ii)  $R = \{(x, y) : x, y \in \mathbb{N}, y = \frac{1}{1+x} \text{ and } x \text{ is odd natural number}\}$



Q16 (i) If  $f: [2, \infty) \rightarrow R$  such that  $f(x) = 2x^2 + 8x - 11$ , find range of  $f(x)$ .

(ii) Find domain of  $f(x) = \frac{1}{\sqrt{[x] - x}}$ , where  $[.]$  is greatest integer function.

Q17 (i) In a group of children, 70 play Football out of which 40 play Football only, 44 play Hockey; 50 play Cricket out of which 22 play Cricket only. Out of these 14 play Cricket and Football but not Hockey, 6 play Football and Hockey but not Cricket and 24 Play Football and Cricket both. How many play all the three games? How many play Cricket and Hockey but not Football? How many play Hockey only? What is the total number of children in the group?

(ii) Playing games like cricket football, hockey etc. is good or bad? Justify your answer.

Q18  $F(x) = \sqrt{x-2} + \sqrt{4-x} + \frac{1}{[x-2]}$  where  $[.]$  is the greatest integer function: find domain

of  $F(x)$ .

Q19 If  $f(x) = x^3 - \frac{1}{x^3}$  then find  $f(x) + f\left(\frac{1}{x}\right)$

Q20 Describe the following set in set builder form.

$$A = \left\{1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}\right\}$$

Q.21

A function  $f$  is defined on the set of integers as follows:  $f(x) = \begin{cases} 1+x, & 1 \leq x < 2 \\ 2x-1, & 2 \leq x < 4 \\ 3x-10, & 4 \leq x < 6 \end{cases}$

(i) Find the domain of the function. (ii) Find the range of the function

(iii) Find the value of  $f(4)$

Q22 a) Determine the domain and range of the following relations on  $N$

i)  $R = \{(x, x^3) : x \text{ is a prime number less than } 10\}$

ii)  $R = \{(4x+3, 1-x) : x \leq 4, x \in N\}$

b) Let  $A = \{1, 2, 3, 4, 5\}$  and  $B = \{1, 2, 3, \dots, 66\}$ . Find  $R$  as a set of ordered pairs, domain and range of  $R$  if  $xRy \Leftrightarrow x$  is cube root of  $y$ .

Q23  $A = \{x : |x| < 5, x \in Z\}$ ,  $B = \{x : x = 2n+1, n \in N, x < 10\}$

$C = \{x : x \text{ is a whole number ; } x \leq 4\}$ .

Find (i)  $A \cap (B \cup C)$  (ii)  $(A \cap B) \cup (A \cap C)$

# Science

## Physics

- Q1. A gas bubble, from an explosion under water oscillates with a period  $T$  proportional to  $p^a d^b E^c$ , where  $p$  is static pressure,  $d$  is density of water and  $E$  is total energy of the explosion. Find the values of  $a$ ,  $b$  and  $c$ . (Ans.  $a = -5/6$ ,  $b = 1/2$ ,  $c = 1/3$ )
- Q2. The percentage errors in the measurement of mass and speed are 2% and 3% respectively. How much will be the maximum error in the estimate of kinetic energy obtained by measuring mass and speed? (Ans: 8%)
- Q3. The radius of sphere is 1.41 cm. Express its volume to an appropriate number of significant figures. (Ans:  $11.7 \text{ cm}^3$ )
- Q4. The period of vibration of a tuning fork depends on the length  $l$  of prong, density  $d$  and young's modulus  $Y$  of material. Deduce an expression for the period of vibration on the basis of dimension. (Ans:  $Kl(d/Y)^{1/2}$ )
- Q5. Find the dimensions of  $a/b$  in the equation :  $F = a(x)^{1/2} + bt^2$ , where  $F$  is force,  $x$  is distance and  $t$  is time. (Ans:  $a/b = L^{-1/2}T^2$ )
- Q6. Check the correctness of equation  $v = (2GM/R)^{1/2}$ , where  $v$  is velocity,  $G$  is gravitational constant and  $R$  is radius of earth and  $M$  is mass of earth.
- Q7. Find the value of 60J per minute on a system that has 100 g, 100 cm and 1 min as the base unit. (Ans:  $2.16 \times 10^6$  new units of power)
- Q8. Convert 1 dynes into newton.
- Q9. A body travels a distance  $s_1$  with velocity  $v_1$  and distance  $s_2$  with velocity  $v_2$  in the same direction. Find the average velocity. (Ans:  $(s_1 + s_2)v_1 v_2 / s_1 v_2 + s_2 v_1$ )
- Q10. The distance travelled by a particle moving along straight line is given by  $x = 180t + 50t^2$  metre. Find  
(1) The initial velocity of particle.  
(2) The velocity at the end of 4seconds. (Ans: 180m/s, 580m/s)
- Q11. A ball is thrown vertically up with a velocity of 20m/s. Construct acceleration-time graph and displacement –time graph.
- Q12. What is the position at any time, for a body starting from rest, with an acceleration  $a = at^2$ ? (Ans:  $x_t = x_i + at^4/12$ )
- Q13. A woman starts from her home at 8:00 am, walks with a speed of 5km/hr on a straight road up to her office 5km away stays at the office up to 4 p.m., and returns home by an auto with a speed of 25km/hr. Choose suitable scale and plot x-t graph.

- Q14. If the initial velocity of a particle is  $u$  and collinear acceleration at any time  $t$  is which is directly proportional to  $t$ . Calculate the final velocity of particle after time  $t$ .
- Q15. Draw the following graphs for an object under free fall.
- Variation of acceleration with time.
  - Variation of velocity with respect to time.
  - Variation of distance with respect to time.
- Q16. A body starting from rest accelerates uniformly along a straight line at the rate of  $10\text{m/s}^2$  for 5 seconds. It moves for 2 seconds with uniform velocity of  $50\text{m/s}$ . Then it retards uniformly and comes to rest in 3 seconds. Draw velocity-time graph of the body and find the total distance travelled by the body. ( **Ans : 300 m** )
- Q17. An electron travelling with a speed of  $5 \times 10^3\text{m/s}$  passes through an electric field with an acceleration of  $10^{12}\text{m/s}^2$ . How long will it take for the electron to double its speed? (  **$t = 5 \times 10^9\text{m/s}$**  )
- Q18. A stone loses  $1/10^{\text{th}}$  of its velocity on passing through a sand bag of length  $x$ . For its velocity to be made zero, how many more similar bags are to be placed on its path? ( **Ans : 6 bags** )
- Q19. A body covers 200 cm in the first 2 seconds and 220 cm in the next two seconds. What will be its velocity at the end of 7 seconds/ Also, find the displacement in 7 seconds. (Ans:  **$s = 787.5\text{ m}$ ,  $v = 130\text{m/s}$** )
- Q20. A body starts from rest, accelerates uniformly. Find the ratio of displacement in,
- One, two and three seconds.
  - First, second and third second. ( **Ans : (a) 1:4:9, (b) 1:3:5** )
21. A juggler maintains four balls in motion, making each in turn rise to a height of 20 m from his hand. With what velocity does he project them and where will the others three balls are at the instant when fourth one is just leaving the hand?  
( **Ans: first ball : 15 m downward, second ball : 20 m , third ball 15 m upwar0** )
- Q22. A car moving with a speed of  $50\text{ km/hr}$  can be stopped by brakes after at least 6 m. What will be the minimum stopping distance, if same car is moving at a speed of  $100\text{km/hr}$ ? ( **Ans : 24.1 m** )
23. The relation between  $t$  and distance  $x$  is  $t = ax^2 + bx$  where  $a$  and  $b$  are constants. Express the instantaneous acceleration in terms of instantaneous velocity.  
( **Ans:  $-2av^3$**  )
- Q24. A ball is released from the top of a tower of height  $h$  meters. It takes  $T$  seconds to reach the ground. What is the position of ball in  $T/3$  seconds? ( **Ans:  $8h/9$**  )

- Q25. Points P, Q and R are in vertical line such that PQ=QR. A ball is allowed to fall freely. What is the ratio of time of descent through PQ and QR? ( Ans: 1: ( $\sqrt{2}-1$ )
- Q26. What does speedometer of car measures?
- Q27. What is the nature of v-t graph?
- Q28. A body projected up reaches a point P of its path at the end of 4seconds.and the highest point at the end of 12 seconds. After how many seconds from the start will it reach P gain?
- Q29. A player throws a ball upwards with an initial speed of 29.4m/s. What are the velocity and acceleration at the highest point?
- Q30. What does the area under displacement-time graph represents?
- Q31. Using integration technique prove that:  

$$V^2-U^2=2as$$

$$S=ut+1/2at^2$$
- Q32. A body travels uniformly a distance of (13.8±0.2) m in time (4±0.3) s. Calculate its velocity with error limits. What is the percentage error in velocity?  
 Ans: (3.5±0.3m/s, 9%)
- Q33. If x,y, z be the distances described by a particle during the p<sub>th</sub> , q<sub>th</sub> and r<sub>th</sub> second respectively, prove that : (q-r)x+(r-p)y+(p-q)z=0
- Q34. A stone is dropped from a balloon rising upwards with a velocity of 16m/s. The stone reaches the ground in 4seconds. Calculate the height of the balloon when the stone was dropped. ( Ans: 14.4 m)
- Q35. From the top of tower 100 m in height a ball is dropped and at the same time another ball is projected vertically upwards from the ground with a velocity of 25m/s. Find when and where the two balls will meet.( Ans: 78.4 from top, 4second)
- Q36. A body falling freely under gravity passes two points 30 m apart in 1 second. Find from what point above the upper point it began to fall. ( Ans: 32.1 m)
- Q37. Starting from rest a car accelerates uniformly with 3m/s<sup>2</sup> for 5 seconds and then move with uniform velocity. Draw the displacement-time graph of motion of car up to 7 seconds.
- Q38. Under what condition distance and displacement have same magnitude?
- Q39. A particle is moving in a circular track of radius r. What is the distance and displacement covered by the particle in half circle?
- Q40. What is the numerical ratio of velocity to speed of an object?

# Chemistry

**Time Duration: 3 hours**

**M.M.: 70**

**Instructions: -**

1. All questions are compulsory.
  2. Question nos. 1 to 5 is very short answer questions and carries 1 mark each.
  3. Question nos. 5 to 10 is short answer questions and carries 2 marks each.
  4. Question nos. 11 to 22 also short answer questions and carry 3 marks each.
  5. Question nos. 23 is a value based short answer question and carry 4 marks.
  6. Question nos. 24 to 26 is long answer question and carries 5 marks each.
  7. Use log tables if necessary, use of calculators is not allowed.
- 

- |      |                                                                                                                                                                                                                                            |   |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Q1.  | Calculate the number of electrons present in 1.4g of NH <sub>3</sub> ?                                                                                                                                                                     | 1 |
| Q2.  | State law of constant proportions.                                                                                                                                                                                                         | 1 |
| Q3.  | State Heisenberg's uncertainty principle.                                                                                                                                                                                                  | 1 |
| Q4.  | Give the significance of de-Broglie's wavelength.                                                                                                                                                                                          | 1 |
| Q5.  | Define limiting reagent with an example.                                                                                                                                                                                                   | 1 |
| Q6.  | Calculate the number of atoms and molecules in 18g of C <sub>6</sub> H <sub>12</sub> O <sub>6</sub> ?                                                                                                                                      | 2 |
| Q7.  | If 4g of NaOH dissolved in 36g of H <sub>2</sub> O, calculate the mole fraction of each component in the solution. Also, determine the molarity of solution (specific gravity of solution is 1g ml <sup>-1</sup> ). (Atomic Mass of Na=23) | 2 |
| Q8.  | State Aufbau's principle and write the electronic configuration of Fe <sup>2+</sup> and Cr.<br>(Atomic no of Fe = 26 and Cr = 24)                                                                                                          | 2 |
| Q9.  | (a) What is the lowest value of n that allows f-orbital to exist?<br>(b) How many sub-shells are associated with n=5?                                                                                                                      | 2 |
| Q10. | What volume of oxygen at 18°C and 750mm pressure can be obtained from 10g of potassium chlorate?                                                                                                                                           | 2 |
| Q11. | Dinitrogen and dihydrogen react with each other to produce ammonia according to the following chemical equation:<br>$\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \longrightarrow 2\text{NH}_3$                                            | 3 |
|      | (a) Calculate the mass of ammonia gas formed if 5kg of nitrogen gas reacts with 2kg of hydrogen gas.                                                                                                                                       |   |
|      | (b) Which of the two reactants is the limiting reagent and why?                                                                                                                                                                            |   |
|      | (c) Which of the two reactants will remain unreacted and what will be the amount left unreacted?                                                                                                                                           |   |
| Q12. | (a) The energy associated with the first orbit in the hydrogen atom is $-2.18 \times 10^{-18} \text{ J atom}^{-1}$ . What is the energy associated with the fifth orbit?<br>(b) Explain the spectrum of hydrogen.                          | 3 |

- Q13. (a) What are the frequency and wavelength of a photon emitted during a transition from  $n=5$  state to the  $n=2$  state in the hydrogen atom? 3  
 (b) De-Broglie's equation doesn't show any significance in our daily life. Why?
- Q14. (a) Using Heisenberg's uncertainty principle, show that an electron cannot exist in the nucleus of an atom. 3  
 (b) If an electron is moving with a velocity  $600\text{ m s}^{-1}$  which is accurate up to 0.005%, then calculate the uncertainty in its position.  
 ( $h=6.63 \times 10^{-34}$  Js, mass of electron =  $9.1 \times 10^{-31}$  kg)
- Q15. (a) What is common in these species and arrange the following in the increasing order of their size: -  $\text{O}^{2-}$ ,  $\text{F}^-$ , Ne,  $\text{Na}^+$ ,  $\text{Mg}^{2+}$  and  $\text{Al}^{3+}$ . 3  
 (b) Write the formula of compounds formed by the following pairs of elements.  
 (i) silicon and bromine (ii) aluminium and sulphur
- Q16. (a) A solution is prepared by adding 2 g of a substance A to 18 g of water. Calculate the mass per cent of the solute. 3  
 (b) Calculate the mass of sodium acetate ( $\text{CH}_3\text{COONa}$ ) required in making 500 mL of 0.375 molar aqueous solution. Molar mass of sodium acetate is  $82.0245 \text{ g mol}^{-1}$ .
- Q17. Define molarity and molality. Which of these is a better quantity to measure concentration of a solution and why? 3
- Q18. (a) A black dot which is used as a full stop at the end of a sentence has a mass of about  $10^{-18}$  g. Assuming that dot is made up of carbon, calculate the approximate number of carbon atoms present in the dot? 3  
 (b) How much time would it take to distribute one Avogadro number of wheat grains, if  $10^{10}$  grains are distributed each second?
- Q19. (a) Write two limitations or drawbacks of Bohr's model of atom? 3  
 (b) The threshold frequency  $\nu^0$  for a metal is  $7.0 \times 10^{14} \text{ s}^{-1}$ . Calculate the kinetic energy of an electron emitted when radiation of frequency  $\nu = 1.0 \times 10^{15} \text{ s}^{-1}$  hits the metal.
- Q20. What are the frequency and wavelength of a photon emitted during a transition from  $n=5$  state to the  $n=2$  state in the hydrogen atom? 3

OR

- Electromagnetic radiation of wavelength 242 nm is just sufficient to ionize the sodium atom. Calculate the ionization energy of sodium in  $\text{kJ mol}^{-1}$ .
- Q22. (a) An ion with mass number 37 possesses one unit of negative charge. If the ion contains 11.1% more neutrons than the electrons, find the symbol of the ion. 3  
 (b) If the velocity of the electron in Bohr's first orbit is  $2.19 \times 10^6 \text{ ms}^{-1}$ , calculate the de Broglie wavelength associated with it.
- Q23. The air around the city of Agra, where the Taj Mahal is located, contains fairly high levels of sulphur and nitrogen oxides. It is mainly due to many industries and power plants around the area. Use of poor quality of coal, kerosene, and firewood as fuel for domestic purposes add up to this problem. The resulting acid rain reacts with 4

marble,  $\text{CaCO}_3$  of Taj Mahal, causing damage to this wonderful monument that has attracted people from around the world. As a result, the monument is being slowly disfigured and the marble is getting discoloured and lustreless. So, Government of India has decided to shift all the factories from nearby places which were using fossil fuels.

Answer the following questions: -

- (a) What is the main cause of damage to Taj Mahal?
- (b) Write the reaction of limestone with sulphuric acid.
- (c) What are the sources of sulphur and nitrogen oxides to air?
- (d) What are the values associated with the above paragraph?

Q24. (a) How many significant figures are present in the following: - 5

- (i) 2.034
- (ii) 0.025

(B) On analysis, it was found that an organic compound is made up of hydrogen = 6.67%, carbon = 40% and rest of oxygen. Its molecular mass was found to be  $180 \text{ g mol}^{-1}$ . Calculate its empirical and molecular formula.

OR

(a) In three moles of ethene, calculate the following: -

- (i) No of moles of carbon atom.
- (ii) No of moles of hydrogen atom.
- (iii) No of molecules of ethane.

(b) If the density of methanol is  $0.793 \text{ kg L}^{-1}$ . What is the volume needed for making 5L of its 0.25 M solution?

Q25. (a) Write a note on black body radiations. 5

(b) The ionization energy of  $\text{He}^+$  is  $8.72 \times 10^{-18} \text{ J atom}^{-1}$ . Calculate the energy of the first stationary state of  $\text{Li}^{2+}$ .

(c) A 100watt bulb emits monochromatic light of wavelength 400 nm. Calculate the number of photons emitted per second by the bulb.

OR

(a) Write short note on Electromagnetic wave theory?

(b) Differentiate between an orbit and orbital (at least four)?

(c) An element with mass number 81 contains 31.7% more neutrons as compared to protons. Assign the atomic symbol.

Q26. Use periodic table to answer the following questions: - 5

(a) Identify an element with five electrons in the outer sub-shell.

(b) Identify the element that would tend to lose two electrons.

(c) Identify the element that would tend to gain two electrons.

(d) Identify the group having a non-metal liquid as well as gas at room temperature.

(e) Why electron gain enthalpy of Chlorine is greater than Fluorine?

OR

(a) Why noble gases and alkali metals have a positive value of electron gain enthalpy?

(b) What is the general electronic configuration of d-block elements?

(c) Why ionization enthalpy of Nitrogen is greater than oxygen?

(d) Write any two significance of Mendeleev's periodic table.



# Biology

## Holiday Assignment I

### Instructions:

*Q. Nos 1-5 are of 1 mark each.*

*Q. Nos 6-10 are of 2 marks each.*

*Q. Nos 11-22 are of 3 marks each.*

*Q. No 23 is of 4 marks.*

*Q. Nos 24-26 are of 5 marks each.*

1. What is 'red tide'? Name the organism responsible for this.
2. What is heterospory? What is its significance?
3. Justify" metabolism is considered to be a defining feature for an organism to be called as living".
4. How is key helpful in the identification and classification of an organism?
5. Give one point difference between a phycobiont and mycobiont.
6. Define taxonomic hierarchy? Give its lowest and highest taxa.
7. How is a kingdom different from class? Explain with an example.
8. Write the classification of housefly and wheat up to kingdom level starting from species
9. Distinguish between
  - (a) Plant virus and animal virus
  - (b) Virus and viroids
10. What are slime moulds? Give any two characteristics of this group.
11. What do you understand by binomial nomenclature? List the rules of Binomial nomenclature.
12. Tabulate any three differences between Gymnosperm & pteridophytes in their reproductive structures.
13. Differentiate between the three classes of Thallophyta.
14. Describe the similarities in sexual reproduction of moss & fern.
15. With the help of diagrams explain diplo haplontic life cycle.
16. How would you distinguish between monocots & dicots?
17. How are Ascomycetes different from basidiomycetes in their fruiting bodies?
18. With the help of a diagram explain the structure of Bacterial cell.
19. Give reasons:
  - a) Dianoflagellates are called bioluminescent organisms.
  - b) Deuteromycetes called as imperfect fungi.
  - c) Lichens are symbionts.
20. Give the economic importance of the following groups---- Algae and bryophytes.

21. How are cones in gymnosperms different from strobili of pteridophytes.
22. Define the terms: Taxonomy, Systematics, cytotaxonomy.
23. Cyanobacteria have a lot of importance in the process of nitrogen fixation. Justify the statement giving the structure and characteristics of cyanobacteria.
24. a) Differentiate the bacteria on the basis of gram staining technique.  
b) Explain the technique.
25. Why are angiosperms also called as flowering plants? List any eight characteristics of this division. Draw and explain the type of cycle seen in them.
26. Justify the reason for not including the fungi in Kingdom Plantae. Explain the process of nutrition and reproduction seen in these group of fungi with diagrams.

## Holiday Assignment II (Biology)

### Instructions:

*Q. Nos 1-5 are of 1 mark each.*

*Q. Nos 6-10 are of 2 marks each.*

*Q. Nos 11-22 are of 3 marks each.*

*Q. No 23 is of 4 marks.*

*Q Nos 24-26 are of 5 marks each.*

1. Write the full form of ICBN.
2. Name the two books written by Carolus Linneaus in classifying the plants and animals.
3. What is the role played by the following structures in a bacterial cell- fimbriae and pili?
4. Name the bacterium which cause the following diseases- TB, Cholera.
5. What does the term algal bloom signify?
6. Mesosomes have a significant role to play in the functioning of the bacterium. Justify giving reasons.
7. Draw a well labeled diagram of Euglena and write two identifying characteristics.
8. Why are Bryophytes called as amphibians of plant kingdom? Give two examples of them.
9. Gymnosperms and angiosperms have seeds but they are classified separately. Justify the statement giving two reasons.
10. How is diatomaceous earth formed? Give its commercial significance.
11. What are the four groups of protozoans that you have studied? How are they differentiated according to the locomotary structures?
12. What is heterothallism? Give its importance in fungi.
13. Which group of fungi shows Dikaryotic stage? Write the characteristics of that group.
14. Give any three commercial uses of Fungi in baking, brewing and medical industry.
15. Mention the ploidy of the following: protonemal cell of moss, primary endosperm nucleus in dicots, prothallus of fern, gemma cell in Marchantia, meristem cell of monocot and zygote of a fern.
16. What is double fertilization in plants? Give the sequence of events taking place in them.
17. Explain the terms a) gametophyte b) sporophyte and c) alternation of generations.
18. What do you understand by herbarium? What are the various steps to prepare a herbarium sheet?
19. With the help of a flow chart represent five kingdom classification proposed by R.H. Whittakar.
20. Write a short note on various bacteria that are classified on the basis of position of flagella.
21. Plasmids have a significant role in bacterial conjugation. Explain. Also describe its functions in bacterial cell.
22. What are the three types of nutrition that take place in bacteria? Describe them in brief.

23. What are archebacteria? How are they classified? Explain the types.
24. a) Write any six differences between bacteria and cyanobacteria.  
b) Name two cyanobacteria used in nitrogen fixation.
25. a) Write a brief account of Mycorrhiza.  
b) With the help of a diagram represent life history of a mushroom.
26. a) Differentiate between male and female cone of pinus.  
b) Diagrammatically represent reproductive cycle in Gymnosperms.  
c) Name the living fossil of Gymnosperm.

# Accountancy

## Practice Paper (1)

- Q1. Give any two objectives of accounting? (1)
- Q2. What is voucher? (1)
- Q3. Closing stock is valued at lower of cost or realizable value which principle of accounting is applied here? (1)
- Q4. Give two examples of representative personal account? (1)
- Q5. What are the two basis of accounting? (1)
- Q6. If total assets of a business are Rs. 100,000 and capital is Rs.400,000 calculate creditors? (1)
- Q7. Is 'cash memo' a source document or an accounting voucher? (1)
- Q8. Which account should be debited, if wages are paid for installation of a machine? (1)
- Q9. State any three users of accounting information. Why do they need accounting information? (3)
- Q10 'X' started a business on 1<sup>st</sup> April, 2007 with a capital of rs.50, 000 and a loan of Rs. 25000 on 31<sup>st</sup> march, 2008, his assets were Rs. 150,000. Find out his capital as on 31<sup>st</sup> march and profit made or loss incurred during the year 2007-08 (3)
- Q11. State three limitations of double entry system? (3)
- Q.12 Prepare an accounting equation from the following :- (3)
- (i) Started business with cash ₹ 50,000 and goods ₹ 30,000.
  - (ii) Purchased goods for cash ₹ 30,000 and on credit ₹ 20,000.
  - (iii) Rent outstanding ₹ 2000.
  - (iv) Accrued interest ₹ 500.
- Q13. Give an example of each of the following transactions: (4)
- Increase in an asset and a liability
  - Decrease in an asset and a liability
  - Increase in asset and capital
  - Decrease in asset and capital
- Q14. Distinguish between trade discount and cash discount? (4)
- Q15. On which side the increase in the following accounts is recorded? Also specify the nature of accounts to which they belong: (4)
- (i) Ram (proprietor)
  - (ii) Purchase of goods
  - (iii) Sales a/c
  - (iv) Debtor's a/c

- (v) Rent a/c
- (vi) Cash a/c
- (vii) Interest received
- (viii) Creditors a/c

- Q16. Distinguish between Book Keeping and Accounting. (4)
- Q17. Difference between cash basis and accrual basis of accounting? (4)
- Q18. Explain the meaning of any three of the following terms: (2+2+2)
- Assets
  - Capital
  - Debtors
  - Drawings
- Q19. Explain the meaning of any two of the following: (3+3)
- Full disclosure
  - Consistency
  - Materiality
  - Conservatism
- Q20. Prepare accounting equation from the following and also prepare a balance sheet: (6)
- Raghu started business with cash Rs. 1,50,000
  - Bought goods for cash Rs. 80,000 and on credit for Rs. 40,000
  - Goods costing Rs. 75,000 sold at a profit of  $33\frac{1}{3}\%$ . Half the payment received in cash.
  - Goods costing Rs. 10,000 sold for Rs. 12,000 on credit.
  - Paid for rent Rs. 2,000 and salaries for Rs. 4000.
  - Goods costing Rs. 20,000 sold for Rs. 18,500 for cash.
- Q21. Journalize the following transactions: (6)
- 2008    June 3    started business with cash Rs. 20,000
- June 4    purchased goods for cash Rs. 5000
- June 11    sold goods to Hari Rs. 1500
- June 15    received from Hari Rs. 1450 in full settlement of his a/c
- June 20    paid rent Rs. 200
- June 30    received commission Rs. 500
- Q22. Explain the following: (6)
- (i) Tangible assets
  - (ii) Intangible assets

(iii) Fictitious assets

(iv) Fixed assets

Q23. Explain the following ; (6)

- Matching concept or Matching principle
- Dual aspect or Duality principle

Q24. Create an accounting equation on the basis of following information: (6)

- Started business with cash Rs.40,000 and Furniture Rs. 20,000
- Bought goods for cash Rs.10,000 and on credit Rs. 20,000 from Atul
- Goods bought from Atul on credit was sold for Rs.26,000
- Cleared the account of Atul by paying Rs.19,500
- Paid salary 6,000 and still unpaid Rs.2000
- Received commission Rs.3000

Q25. Journalize the following: (1 ½)

- Goods worth Rs.400 were given as charity out of business. + 1 ½
- Received cash Rs. 500 from a bad debt written off last year + 1 ½
- Interest charged on drawings @5% when total drawings were Rs. 10,000. + 2)
- Paid to Sita Rs. 965 in full payment of her dues of Rs. 1000. =(8)
- Sold goods to kitty at a list price of Rs. 20,000 at a trade discount 10% and cash discount 5%, half the payment received in cash.

# Accountancy

## Practice Paper (2)

Time 3 hrs

MM.90

### *General Instructions:*

- (i) All questions are compulsory.
- (ii) Attempt all the parts of a question at similar place.
- (iii) Marks are indicated against each question.
- (iv) The question paper contains 23 questions in 4 pages.

- 
- Q1. Which system of Accounting records outstanding expenses and incomes? (1)
- Q2. What is accounting? (1)
- Q3. Give two examples of current assets? (1)
- Q4. Write down full form of GAAP? (1)
- Q5. What is cash discount? (1)
- Q6. Define “bank overdraft”? (1)
- Q7. Name the book which is considered both journal and ledger? (1)
- Q9. State three advantages of double entry system? (3)
- Q10. Mohan started a business on 1st April, 2010 with a capital of Rs 10,000 and borrowed Rs 3,000 from a friend. He earned a profit of Rs 5,000 during the year ended 31st March, 2011 and withdrew cash Rs 4,000 for private use. What is his capital on 31st March, 2010? (3)
- Q11. What is compound journal entry and opening entry? (3)
- Q12. Distinguish between revenue expenditure and capital expenditure. (3)
- Q16. A company purchased goods for Rs. 5,00,000 and sold 80% of such goods during the year. The market value of remaining goods was Rs. 90,000. The company valued the closing stock at cost. Which principle is being violated? (4)
- Q17. Give four advantages of accrual basis of accounting. (4)
- Q18 Y started a business on 1st January, 1998 with a capital of Rs. 2,00,000 and a loan of Rs. 75,000 from the bank. During the year, he had introduced additional capital of Rs. 60,000 and had withdrawn Rs. 36,000 for personal purposes. On 31st December, 1998 his assets were Rs. 3,80,000. Find out his capital as on 31st December, 1998 and profit earned during the year 1998. (4)
- Q19 What is meant by ‘window dressing’ in accounting? (4)



Q20 Give the rules of Debit and Credit and explain them with imaginary examples. (4)

Q13. Create an accounting equation on the basis of following information: (6)

- Started business with cash Rs.40,000 and Furniture Rs. 20,000
- Bought goods for cash Rs.10,000 and on credit Rs. 20,000 from Atul
- Goods bought from Atul on credit was sold for Rs.26,000
- Cleared the account of Atul by paying Rs.19,500
- Paid salary 6,000 and still unpaid Rs.2000
- Received commission Rs.3000 including Rs. 1000 in advance

Q14. Explain the meaning of the following: (6)

- Going concern assumption
- Consistency assumption

Q15. Record the following transactions in the journal: (8)

- Bought a horse for delivering goods to customers Rs.12,000
- Sold goods to Gopal on credit Rs.1,00,000
- Received a cheque for Rs.98,000 from Gopal in full settlement of his account
- Depreciate machinery Rs.6,000
- Bank charged interest Rs.500
- Paid cash to Ram on behalf of Shyam Rs.2000
- Purchase goods from Mohan Rs.20,000 at a trade discount 10% and cash discount 5%, 40% payment made in cash.

Q21. Journalise the following transactions in Journal of Sh. Navin Gupta- (6)

- i. Out of insurance premium paid this year, Rs. 1,500 is related to next year.
- ii. Credit purchases from Ram & Co. for Rs.5000. Cash discount will be received at 5% on payment of bill within 10 days.
- iii. Cash paid to Ram & Co. and discount availed of.
- iv. Paid income tax Rs. 2000.
- v. Goods costing Rs. 20,000 sold for cash at a profit of 10%
- vi. Purchased iron safe for Rs. 20,000, filing cabinet for Rs. 5,000 and typewriter for Rs. 10,000.

Q22. State any six users of accounting equation? Why do they need accounting equation? (6)

Q23 .Preparation of accounting equation:- (10)

- (i) Invested Rs. 40,00,000 as capital in business
- (ii) Purchased a building on cash from Mohan Rs. 15,00,000 by taking a loan from bank.
- (iii) Paid interest on loan Rs. 30,000 and instalment of Rs. 2,50,000.

- (iv) Purchased goods from SohanRs. 1,00,000.
- (v) Returned goods to sohan costing Rs. 20,000.
- (vi) Sold goods worth Rs. 50,000 to Ram.
- (vii) Received Rs. 10,000 from ram.
- (viii) Took goods of Rs. 5,000 from business for personal use.
- (ix) Accrued interest Rs. 5,000.
- (x) Commission received in advance Rs.10,000.

Q8. Explain the meaning of the following terms:-

5\*2=10

- (i) Liability
- (ii) Capital
- (iii) Expenditure
- (iv) Creditors
- (v) Wasting assets

# Accountancy

## Practice Paper (3)

- Q1 Amit has incurred an expense of Rs 5,000 towards repairs. However, the amount is yet to be paid. How will it be shown in the accounting equation? 1
- Q2 Why are the rules of debit and credit same for liability and capital? 1
- Q3 State one difference between Expenses and Expenditure. 1
- Q4 Give two examples of Tangible Assets. 1
- Q5 Distinguish between Cash Basis and Accrual Basis of Accounting. ( Three Points) 3
- Q6 Analyze the following transactions, state nature of accounts and state which account will be debited and which account will be credited. 3
- I. Paid salary to staff Rs. 10,000
  - II. Received a Cheque from Shyam Rs 5,000
  - III. Withdrew cash for personal use Rs 5,000
- Q7 From the following particulars, prepare the account of Mr. Rakesh, the proprietor of a business, assuming that 10% interest is payable on capital and 5% interest is chargeable on drawings. 4

Capital introduced	Rs.30,000
Drawings made by him	Rs.6,500
Further capital introduced at the end of year	Rs.22,000
Profit for the period	Rs.7,500

Balance the same and explain what the closing balance indicates.

- Q8 X started business on 1st April 2016 with a capital of Rs 50,000 and a loan of Rs.25, 000 taken from Y. During 2016-17, he had introduced additional capital of Rs.25, 000 and had withdrawn Rs.15, 000 for personal use. On 31<sup>st</sup> March 2017, his assets were Rs150000. 4
- Find his capital as on 31<sup>st</sup> March 2017 and profit made or loss incurred during the year 2016-17.
- Q9 During the financial year 2016-17, Mohan had cash sales of Rs 90,000 and credit sales of Rs. 60,000. His expenses for the year were Rs 70,000 out of which Rs 30,000 is still to be paid. 4
- I. Find out Mohan's income for 2016-17 on Cash Basis of Accounting.
  - II. Find out the net income according to Accrual Basis of Accounting.
- Q10 How are the following items dealt in Accounting Equation? 4
- I. Interest due but not received Rs.500
  - II. Rent received in advance Rs. 1,000

III. Insurance premium paid in advance rs1,500

IV. Salaries due but not paid Rs. 2,000

Q11 Explain the following accounting conventions: 6

I. Money Measurement Principle

II. Business Entity Principle

Q12 Show an Accounting Equation for the following transactions: 8

I. Mr. Rajesh acquired business of Gopal consisting of Cash Rs 50,000 Bank Balance Rs.100, 000, Goods Rs.60, 000 Machinery Rs.100, 000 and Furniture Rs.50, 000, Bank overdraft of Rs.50,000 for an agreed value of Rs 3,50,000.

I.  $\frac{1}{3}^{\text{rd}}$  of the above goods sold at a profit of 10% on cost and half of the payment is received in cash.

II. Depreciation on machinery provided @10%.

III. Interest on capital charged @5% for six months.

IV. Goods sold to Gupta for Rs. 10,000 at 20% profit on cost and received a B/R for the same amount.

V. Received Rs.11, 750 from Gupta in full settlement against the Bill Receivable on its maturity.

VI. Cash withdrawn for personal use Rs. 30,000 and for office use Rs 10,000 from bank.

# Business Studies

## Assignment -1

- Q1. Why is business considered as an economic Activity?
- Q2. Explain the concept of business?
- Q3. Which type of business risk involves both the possibility of gain as well as the possibility of loss?
- Q4. What is Entrepport?
- Q5. What are the main human causes of business risk?
- Q6. Name the risk which can be insured?
- Q7. Write four characteristics of business?
- Q8. Discuss the types of economic activities.
- Q9. State the different ways in which an Entrepreneur can deal with risk.
- Q10. What is the role of profit in business?
- Q11. Discuss the meaning of 'Genetic' and 'Extractive' industries with the help of examples.
- Q12. Mention any two social objectives of business.
- Q13. Explain any two business activities which are auxiliaries to trade?
- Q14. Business is essentially a social institution and not merely a profit making activity? Explain?
- Q15. Distinguish between business and profession on the basis of : a) Qualification b) Mode of Establishment c) Code of Conduct d) Return

## Assignment -2

1. Which form of organization is owned and controlled by a single owner?
2. In which form of business organization, every member acts as both agent and as a principal?
3. Discuss the two system of inheritance under Hindu Undivided Family Business.
4. Discuss the various characteristics of Hindu Undivided Family Business.
5. Distinguish between partnership and sole proprietorship on the basis of the following a) Number of members b) Capital Contribution c) Secrecy.
6. The business assets of an organization amounts to ₹50,000 but the dents remains unpaid are ₹80,000. What course of action can the creditors take if
  - a) The organization is a sole proprietorship firm?

- b) The organization is a partnership firm with Ram and Mohan as partners? Which one of the two partners can the creditors approach for the repayment of debt? Explain by giving reasons.
7. Rohan is the sole owner of a shirt manufacturing factory. He took loan of ₹30 Lakhs from Jain Finance Company for expansion of his business. In the beginning business was running well but later on he started facing losses and due to continuous losses he was not able to repay the loan. After receiving many reminders from Finance company, Rohan planned to close the business. He sold all his machines and other assets and collected ₹20 Lakhs. He requested the finance company to settle the accounts by taking ₹20 Lakhs. The Finance Company refused and planned to file a case against him in the court. In court, Mr. Rohan gave the argument that he has sold all his business assets and loan was taken by him for business and not for personal use. So, Finance Company should settle the accounts by taking ₹20 Lakhs. The court did not agree with the argument of Rohan and gave the decision in favour of Finance Company and ordered Rohan to pay full loan amount by selling his personal assets.
- Name the form of business carried by Rohan.
  - State the feature of Sole proprietorship which is kept in mind while taking the decision.
  - Is Rohan's argument of saying he and business are separate entities is correct?

# **Economics**

## **Statistics**

- |                                                                                  |   |
|----------------------------------------------------------------------------------|---|
| 1. What is economic activity?                                                    | 1 |
| 2. What is economics?                                                            | 3 |
| 3. What is difference between primary data and secondary data?                   | 3 |
| 4. Define statistic in singular sense?                                           | 3 |
| 5. What is the importance of statistics?                                         | 3 |
| 6. What are the limitations of statistics?                                       | 4 |
| 7. Statistical methods are no substitutes for common sense. Comment              | 4 |
| 8. Statistics is defined as aggregate of Numerical facts. Explain the statement. | 6 |

## **Indian Economy**

- |   |                                                                                                             |   |
|---|-------------------------------------------------------------------------------------------------------------|---|
| 1 | Define infant mortality rate?                                                                               | 1 |
| 2 | Define life expectancy?                                                                                     | 1 |
| 3 | Explain the production structure of Indian economy?                                                         | 3 |
| 4 | Explain the state of economic growth, demographic conditions and infrastructure on the eve of independence? | 6 |
| 5 | Explain the objectives of planning in India.                                                                | 6 |
| 6 | Explain the main features of Indian economy at the time of independence.                                    | 6 |

# History

## Practice Paper 1

Time Allowed: 2hrs

M.M: 60

### General Instructions:

1. Answer all the questions. Some questions have choice. Marks are indicated against each question.
2. Answers to questions 1 to 3, carrying 2 marks should not exceed 30 words each.
3. Answer to questions 4 – 9, carrying 4 marks, should not exceed 100 words each. Students should attempt any 5 questions in this section.
4. Question 10 (for 4 marks) is a value based question and compulsory.
5. Answer to questions 11 to 14, carrying 8 marks each should not exceed 350 words each. Students should attempt any 3 questions in this section.
6. Questions 15, 16 and 17 are based on sources and have no internal choice.
7. Question 18 is a map question. Students should attach the map within the answer scripts.

### Part – A

Answer all the questions given below:

2x2=4

1. What were the strategies adopted by early humans to obtain food? 2
2. Mention any two reasons for repeated conflicts over land and water in the Mesopotamian countryside? 2

### Part – B

#### Section – I

Answer all the questions.

4x4= 16

3. Explain the two theories of human evolution. Which one do you find more plausible? 4
4. Differentiate between Australopithecus and Genus Homo. 4
5. Why was the southern Mesopotamia productive inspite of less rainfall? 4
6. 'The temples gradually developed its activities and became the main urban institutions at Mesopotamia'. Elaborate. 4

#### Section – II

Value Based Question. (Compulsory)

4

7. Read the following passage and answer the questions that follow:

The evidence of human evolution comes from the fossils of species of human which have become extinct .Fossils can be dated either through direct chemical analysis or indirectly by dating the segments that are buried. When such discoveries were first made, about 200 years ago, many scholar were reluctant to accept that fossils were connected with early forms of humans .This reluctance stemmed from their belief in the Old Testament of the Bible, according to which human origin was regarded as an act of the Creation of god.

- (a)Why were scholars reluctant to accept the validity of the fossils? 2
- (b)What are your views on the origin of human beings. 2



**Part – C**

Answer any three of the following questions.

8x2=16

8. Write a short note on Uruk, one of the earliest temple towns in Mesopotamia. 8
9. Differentiate between the hunter gatherers of the present and the past. 'Information about living hunters and gatherers could be used to understand past societies'. Mention two conflicting views on this statement. 8

**Part – D**

**Passage Based Questions**

7x2=14

**10. Read the following extract carefully and answer the questions that follow:**

In India, early stone seals were stamped. In Mesopotamia until the end of the first millennium BCE, cylindrical stone seals, pierced down the centre, were fitted with a stick and rolled over wet clay so that it continuous picture was created. They were carved with very skilled craftsmen, and sometimes carry writing; the name of the owner, his God, his official position, etc. A seal could be rolled on clay covering the string knot of a cloth package or the mouth of a pot, keeping the content safe. When rolled on a letter written on a clay tablet, it becomes a mark of authenticity. So the seal was the mark of a city dweller's role in public life.

- i. Which type of material was used to make seals? 2
- ii. What were the various types of seals? 2
- iii. Who carved these seals? Write a few features of these seals (Mesopotamian seals). 3

**11. Read the following extract carefully and answer the questions that follow:**

**The Warka Head**

This women's head was sculpted in white marble at Uruk before 3000 BCE. The eyes and eyebrows would probably have taken lapis lazuli (blue) and shell (white) and bitumen (black) inlays, respectively. There is a groove over the top of the head, perhaps for an ornament. This is world famous piece of sculpture, admired for the delicate modelling of the woman's mouth, chin and cheeks. And it was modelled in a hard stone that would have been imported from a distance.

- i. Where was the women's head sculpture discovered? What was it called? How old was this? 3
- ii. What were its unique characteristics? 2
- iii. Why is it a world famous sculpture? Which qualities of this sculpture made him so famous? 2

**PART-E**

**12. Map Question**

5

On the outline map of world indicate the following.

- a) Mesopotamia 1
- b) Mediterranean sea 1
- c) Extent of the Roman Empire 2
- d) River Tigris 1

# Political Science

(CHAPTERS 1-4)

Assignment – 1

Topic - Constitution – Why and How?

## Instructions:

To be done in class registers.

1. What is constitution?
2. Why do we need a constitution?
3. How does a constitution allow for minimal coordination amongst members of a society?
4. Explain the statement, “Specification of decision making powers is done by the constitution.”
5. Explain the most common way of limiting the powers of the government by the constitution.
6. Which constitutional measures enable the Indian government to fulfil the aspirations of society?
7. How does a constitution express the fundamental identity of people?
8. Which body created the Indian constitution? How much time was taken to create it?
9. With the help of system of checks and balances, explain that Indian institutional design is a balanced one.
10. Explain the statement, “Indian constitution is neither rigid nor flexible.”
11. Write any three provisions of the Indian constitution which have been borrowed from constitutions of different countries.
12. Explain the composition of the Constituent Assembly of India.
13. Why is the authority of the constitution considered higher than that of the Parliament?

Assignment – 2

## Rights in the Indian Constitution

1. What is Bill of Rights? Why is it important?
2. Explain the main provisions of Right to Equality.
3. Which articles of the Indian constitution provide the following provisions?
  - a) Reservation for backward classes
  - b) Right to life and personal liberty
4. Explain the concept of Preventive Detention.
5. Indian constitution safeguards us against which three exploitations?
6. Explain the Right to Freedom of Religion.
7. Explain Cultural and Educational Right.
8. Why is the Right to Constitutional Remedies considered the heart and soul of the Indian Constitution?

9. What is the meaning of the term Directive Principle of State Policy?
10. What is the difference between Fundamental Rights and Directive Principles of State Policy?
11. Write and two fundamental duties of Indian Citizens.
12. Explain the controversy pertaining to Fundamental Rights and Directive Principles of State Policy.
13. Why is not paying minimum wages considered a violation of Fundamental Rights?
14. Why is Right to Property no longer a fundamental right? What is its status now?

### **Assignment – 3**

#### **Topic - Election and Representation**

1. What is the meaning of the term 'election'?
2. Why are elections important?
3. Define the termsa
  - a) Direct Democracy
  - b) Indirect Democracy
4. Define 'First Past the Post' system. How does this system work in India?
5. Explain Proportional Representation system as followed in Israel and Argentina.
6. Compare FPTP and PR system of election.
7. Why did India adopt the FPTP system?
8. What is the meaning of separate electorate?
9. What is the difference in separate electorate and reserved constituency?
10. For which legislative bodies does our constitution provide for reservation?
11. How many seats are reserved for Scheduled Castes and Scheduled Tribes?
12. Who decides which constituency is to be reserved? On what basis is this decision taken?
13. What is the present status of reservation for women?
14. Which article of the Indian constitution provide for an independent Election Commission?
15. What are the functions of Election Commission?
16. What kind of electoral reforms are needed in India?

### **Assignment – 4**

#### **Topic - "Executive"**

1. What is an 'executive'?
2. What is the difference in Parliamentary and Presidential forms of government?
3. Name the following:
  - a) An executive headed by a monarch

- b) An executive headed by the president
4. What are the key features of a semi presidential system?
  5. How did parliamentary system of government function in India?
  6. Explain the discretionary powers of the President.
  7. Which article of the Indian constitution indicates the position of the President?
  8. What are the discretionary powers of the President?
  9. Explain the position of the Indian President.
  10. Why is the Prime Minister considered very powerful?
  11. How has the rise of coalition governments since 1989 affected the working of Parliamentary executive?
  12. Define Bureaucracy.
  13. Explain the system of Indian bureaucracy.

## Practice Paper

### All questions are compulsory.

Question nos. 1-5 is of 1 mark each. The answers to these questions should not exceed 20 words.  
Question nos. 6-10 is of 2 marks each. The answers to these questions should not exceed 40 words.  
Question nos. 11-16 is of 4 marks each. The answers to these questions should not exceed 100 words.  
Question nos. 17-19 is of 5 marks each. The answers to these questions should not exceed 120 words.  
Question nos. 20-21 is map based and picture based questions.  
Questions nos.22-27 is of 6 marks each. The answers to these questions should not exceed 150 words.

- 
- Q.1. What is a Preamble? 1
- Q.2. By which amendment act, the Fundamental Duties were incorporated in the Constitution of India? 1
- Q.3. Fill in the Blank:  
\_\_\_\_\_ was the Chairman of the Constituent Assembly of India. 1
- Q.4. What do you understand by the substantive provision of the Constitution. 1
- Q.5. What is meant by the term 'Secular'? Is India a Secular state? 1
- Q.6. What is Universal Adult Franchise? 2
- Q.7. What makes an Election democratic? 2
- Q.8. Why is it necessary for a country to have a clear demarcation of powers and responsibilities in the Constitution? 2
- Q.9. What are the Procedural Achievements of our Constitution? 2
- Q.10. What was Supreme Court's ruling in the famous KesavnandaBharati's case? 2
- Q.11. What is the composition and functions of NHRC? 4
- Q.12. How does Constitution give a fundamental identity to its people? 4
- Q.13. What are the various rights provided by the constitution to the accused to ensure fair trail
- Q.14. What are the Fundamental duties of citizen? 4
- Q.15. Mention any four features of the Indian Constitution. 4
- Q.16. Which Fundamental Right of the Constitution protects the interest of the minorities? 4
- Q.17. Read the passage and answer the questions given below:  
No system of election can ever be perfect. And in actual election process, there are bound to be many flaws and limitations. Any democratic society has to keep searching for mechanisms to make elections free and fair to the maximum. With the acceptance of adult suffrage, freedom to contest elections, and the establishment of an independent Election Commission, India has tried to make its election process free and fair. However, the experience of the last fifty five years has given rise to many suggestions for reforming our election system. The Election Commission, political parties, various independent groups, and many scholars have come up with proposalsfor electoral reform. Some of these suggestions are aboutchanging the constitutional provisions.
- a) What is being referred to in the passage? 2
- b) What mechanisms have been adopted by India to make free and fair elections? 3
- Q.18. Read the passage and answer the questions given below:

The Indian bureaucracy today is an enormously complex system. It consists of the All India services, State services, employees of the local governments, and technical and managerial staff running public sector undertakings. Makers of our Constitution were aware of the importance of the non-partisan and professional bureaucracy. They also wanted the members of the civil services or bureaucracy to be impartially selected on the basis of merit. So, the Union Public Service Commission has been entrusted with the task conducting the process of recruitment of the civil servants for the government of India. Similar public service commissions are provided for the States also. Members of the Public Service Commissions are appointed for a fixed term. Their removal or suspension is subject to a thorough enquiry made by a judge of the Supreme Court.

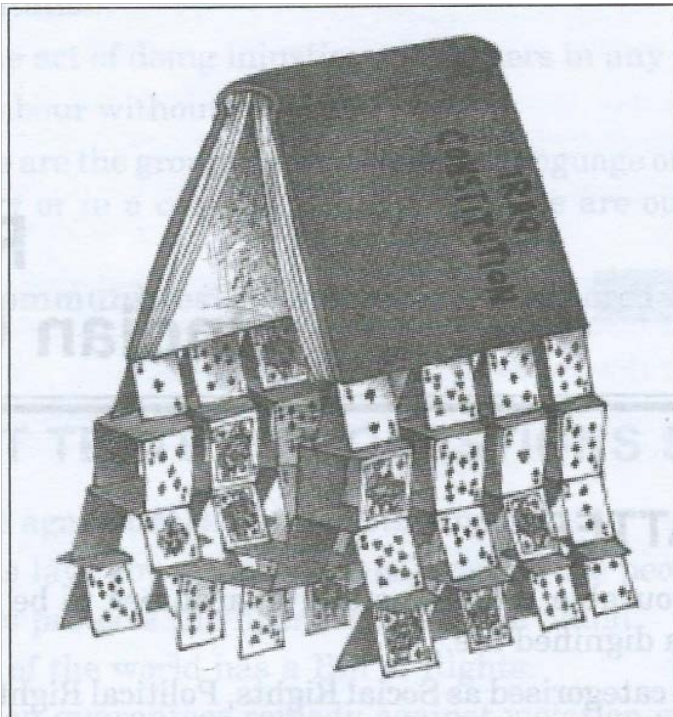
- a) What do you mean by Bureaucracy? 2
- b) What does the Indian Bureaucracy consist of? 3

Q.19. Read the passage and answer the questions given below:

The Election Commission has very limited staff of its own. It conducts the elections with the help of the administrative machinery. However, once the election process has begun, the commission has control over the administration as far as election related work is concerned. During the election process, the administrative officers of the State and central governments are assigned election related duty and in this respect, the Election Commission has full control over them. The EC can transfer the officers, or stop their transfers; it can take action against them for failing to act in a non-partisan manner.

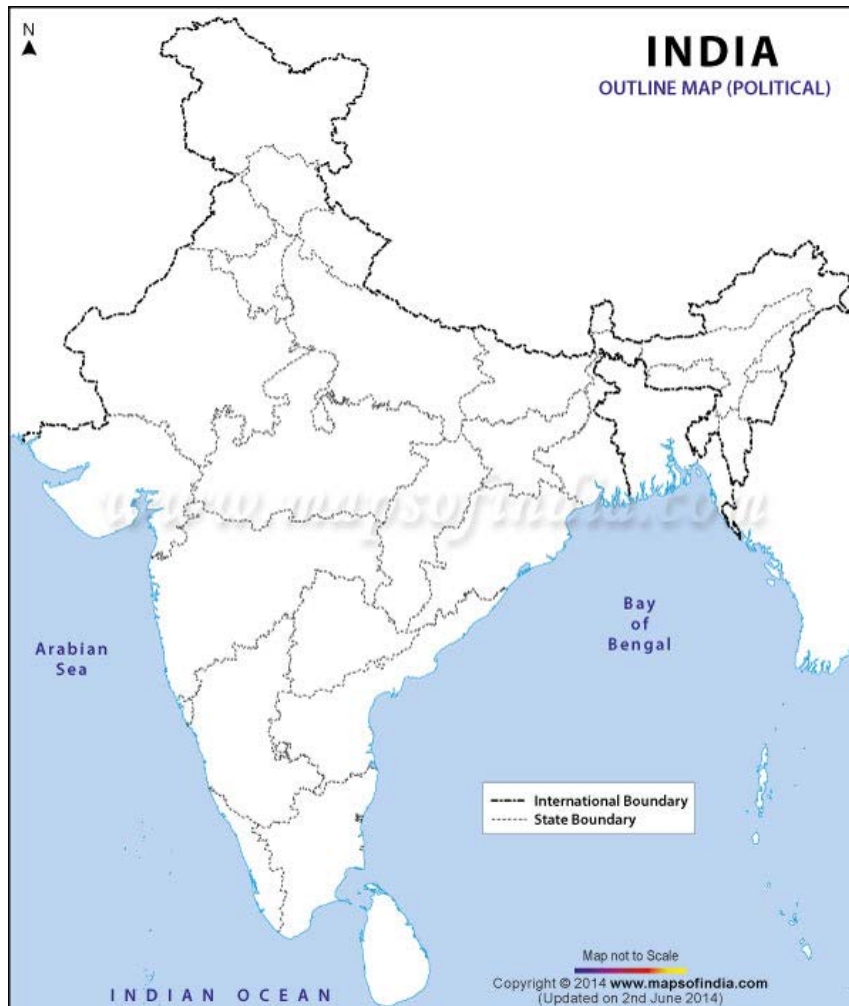
- a) How does the Election Commission conduct the elections? 2.5
- b) During election process, who are assigned election related duties? 2.5

Q.20.



- a) What does the picture depict? 5

Q.21.



a) Name any Five states which are unicameral and bicameral.

5

Q.22. What is the importance of Fundamental Rights? Explain 'Right to Equality'.

6

OR

Describe the composition and working of the Constituent Assembly of India.

6

Q.23. Describe the role of Election Commission of India.

6

OR

"Indian Democracy is now ready to shift from a Crude First Past the Post system to a system of Proportional Representation". Do you agree with the statement? Give reasons for or against this statement.

6

Q.24. Explain the various types of Executives.

6

OR

Mention any THREE reforms suggested for Electoral Reforms.

6

Q.25. Explain the discretionary powers of the Indian President.

6

OR

What is the difference between the system of reservation of constituencies and the system of separate electorates? Why did the Constitution maker reject the latter? 6

Q.26. How does Judiciary act as a custodian of the citizen's rights? Examine the statement by highlighting the importance of 'Writs' issued by it. 6

OR

Differentiate between Permanent and Political Executive. 6

Q.27. How can we call our Constitution a living document and not a close and static book. 6

OR

'The Right to Freedom is a cluster of several rights.' Explain. 6



# Food Production

## Chapter 1: Introduction to Hotel Industry

## Chapter 2: Catering Establishment

## Food Production II

### Chapter 1&2: Personal Hygiene and Environmental Hygiene

1. Differentiate between commercial catering and welfare catering.
  2. Explain banquet and satellite kitchen.
  3. What role a Commis play in the kitchen?
  4. Write any four prerequisites for a supervisory level in the kitchen.
  5. Make a flow chart of staffing pattern in Modern Hotels.
  6. Explain any three sections of kitchen suggested by “Augustus Escoffier”.
  7. Describe the growth of hotel industry in India.
  8. Explain Transport Catering.
  9. List four ways of transferring bacteria to foods.
  10. What do you mean by the term ‘personal hygiene’? Why is it necessary to follow personal hygiene?
  11. Why there is a need of an efficient cleaning programme?
  12. What are the favorable conditions for the growth of bacteria?
  13. List four major reasons why pest control is essential in a catering establishment.
- Write a report on the training conducted in Hotel Marriott, Gurgaon

# Fashion Studies

Q1: Prepare a power point presentation on any two of the following topic and give brief details related to the topic:

- 1) Fashion cycle
- 2) Fad cycle
- 3) Classic cycle
- 4) Current fashion in formal wear.
- 5) Cycle within cycle
- 6) Trickle up and trickle down fashion
- 7) Fashion and color forecast for coming season.

Q2: Make collages on A3 size ivory sheet any **two** following topics:

- 1) Dots
- 2) Lines
- 3) Color (based on color theory: monochrome, triadic, etc.)
- 4) Texture.

Q3: Create **three** different texture on A3 size ivory sheet using natural (e.g. leaf, tree bark, water) or artificial (e.g. foot mat, blocks, etc) material.

\*\* Please note more unique work will be appreciated and awarded.

# Media Studies

## Theory:

Define the following terms:

1. Self
2. Frame of reference
3. Mass media

Answer the following question in not more than 250 words.

1. What is the difference between newspaper style of writing and television style of writing?
2. State the difference between Communication and Mass Communication and substantiate your answer with suitable examples.
3. ‘‘All media is the extension of our sensory capabilities,’’ Discuss the statement with suitable examples.
4. Do you agree with the statement that ‘‘Media is all pervasive and affects every individual and society in varying degrees?’’ Justify your stand with suitable examples.
5. Why is it difficult to generalize the extent to which media affects individuals and society and the outcome thereof?
6. What are the different aspects of Mass Communication?
7. Briefly discuss the functions of Mass Communication?
8. Explain Barriers to Communication briefly with suitable examples?
9. Explain Barriers to Communication briefly with suitable examples?
10. How can an individual’s ‘‘frame of reference’’ is a barrier to communication?

## Practicals:

Q1. Design an Ad Campaign under the following heads and justify it.

Planning: Which media you will target for giving ads.

Duration: Three-month campaign.

Ad copy : Print , Radio and TV

Budget : 5 crore (50 lakhs per print and radio ad and one crore per TV ad)

Q2. Make a documentary of 5 mins duration on any social issue.

Q3. Write editorials on five different themes (National, International, Sports, Environment and Business and Economy).

Q4. Do the comparative analysis of newspaper, radio and television stories. (Take any five stories and compare them in all mediums).

Also write the difference between newspaper style of writing and radio and television style of writing.

Q5. Write a magazine article on any topic of your choice for your school magazine.

Q6. Design a poster on subscribing of newspaper in your school or any other theme (cost :Rs 42 per month).

# Psychology

1. There are several professionals in the field of psychology. Contact a psychologist who fits into one of the categories and interview the person. The questionnaire has already been provided to you. Write a report of your interview and write your specific reactions.
2. Read one book based on psychology and prepare a report giving a brief synopsis.
3. To attend the internship programme at Fortis Hospital and to prepare a project writing your specific reactions.