



# DELHI PUBLIC SCHOOL, BHILAI

Date : 09.09.2019  
Class - XI

FIRST-TERM EXAMINATION, 2019  
SUBJECT – PHYSICS

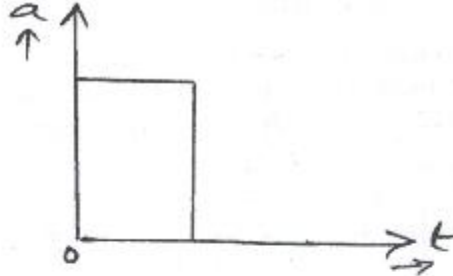
Time : 3 Hrs.  
M.M. 70

## General Instructions :

- All questions are compulsory.
- This question paper contains of four sections.
  - Section A : Question No. 1 to 20 carry one mark each (to be answered in one word or line),
  - Section B : Question No. 21 to 27 carry two marks each,
  - Section C : Question No. 28 to 34 carry three marks each, and
  - Section D : Question No. 35 to 37 carry five marks each
- There is no overall choice. However, an internal choice has been given in one question of 2 marks, In two questions of 3 marks and in all questions of 5 marks.
- You have to attempt only one question in such case.
- Use of calculator is prohibited.

## SECTION : A

- Q.01 Mention a physical quantities whose dimensional formula is  $[M^1L^2T^{-1}]$ .
- Q.02 Can a quantity has dimensions but still has no units?
- Q.03 Given relative error in the measurement of length is 0.02, what is the percentage error?
- Q.04 Name the factor which determines 'precision' in a measurement.
- Q.05 Under what condition is average velocity equal to the instantaneous velocity?
- Q.06 The acceleration- time graph for a body is shown in the given figure. Plot the corresponding velocity-time graph.



- Q.07 What is the ratio of the distances moved by a body falling freely from rest during first and third second of its free fall?
- Q.08 A man has to go 50 m due north, 40 m due east and 20 m due south to reach a field. What is his displacement from his house to the field?
- Q.09 What does area under acceleration- time graph indicate?
- Q.10 A projectile of mass 'm' is projected at an angle  $45^\circ$  with the horizontal with a velocity ' $v$ '. What is its kinetic energy at the topmost point of its trajectory?
- Q.11 What is the angle between the velocity vector and acceleration vector in a uniformly accelerated motion?
- Q.12 Two vectors P and Q are such that  $\vec{P} + \vec{Q} = \vec{R}$  and  $|\vec{P}| + |\vec{Q}| = |\vec{R}|$  What is angle between  $\vec{P}$  &  $\vec{Q}$ ?
- Q.13 Two stones having different masses  $m_1$  and  $m_2$  are projected at an angle  $\theta$  and  $(90^\circ - \theta)$  with same velocity from same point. What is the ratio of their maximum heights?
- Q.14 A person sitting in the compartment of a train moving with uniform speed throws a ball in the upward direction returns back to him. What is the path of the ball appears to a person observing from outside?
- Q.15 Two cars are approaching each other from opposite directions with velocities ' $v$ ' each. What is the magnitude of their relative velocity with respect to one another?

Contd...2

- Q.16 What happens to coefficient of friction, when weight of the body is doubled?
- Q.17 Show how the force of friction varies with applied force graphically.
- Q.18 Name the forces, which act at a point on a body?
- Q.19 What is the effect on the apparent weight of a person standing on a weighing machine in a lift, when it accelerates upward?
- Q.20 It is easy to jump on sand or mattress than on a concrete surface. Name the Newton's law of motion involved.

**SECTION : B**

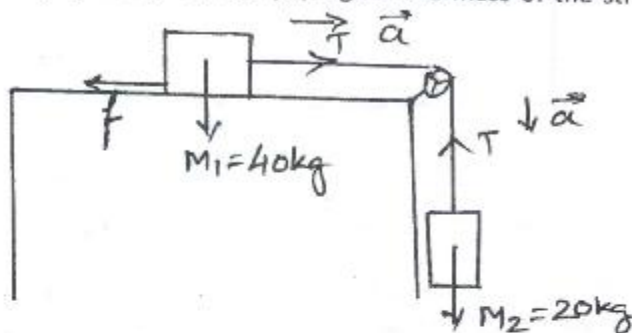
- Q.21 If error in the measurement of a side & mass of a cube are 3% & 4% respectively, what is the maximum permissible error in the density of the material?
- Q.22 If power (P), time (t) & position (x) are related by the relation,  $P = \frac{\alpha - x^2}{\beta t}$ .  
Find the dimensions of  $\alpha$  and  $\beta$ .
- Q.23 What do you mean by random error? How is it corrected?
- Q.24 If velocity (v) of a body at an instant (t) is given by  $v = (4t-5) \text{ ms}^{-1}$ ,  
Find its (i) instantaneous acceleration at  $t=2\text{s}$ , (ii) average velocity between  $t=2\text{s}$  to  $t=4\text{s}$ .
- Q.25 State triangle law of vector addition.

**OR**

- What is zero vector? Give an example.
- Q.26 It is easier to pull a lawn roller than to push it. Explain using the resolution of forces,
- Q.27 A particle starts from the origin at  $t = 0 \text{ s}$  with a velocity of  $(10.0\hat{j}) \text{ m/s}$  and moves in the x-y plane with a constant acceleration of  $(8.0\hat{i} + 2.0\hat{j}) \text{ m/s}^2$  (a) At what time is the x- coordinate of the particle 16 m? (b) What is the y-coordinate of the particle at that time? (c) What is the speed of the particle at that time?

**SECTION : C**

- Q.28 What is the acceleration of the system of two blocks of masses  $m_1 = 40\text{Kg}$  &  $m_2 = 20\text{Kg}$  as shown in Fig., if the coefficient of kinetic friction between the block and the surface is 0.4? What is the tension in the string? (Take  $g = 10 \text{ ms}^{-2}$ ). (Neglect the mass of the string and consider pulley is frictionless)



- Q.29 (a) Draw position time graph for two trains A & B with A ahead of B at  $t=0$  and  $v_B > v_A$ .  
(b) Two trains A and B of length 400 m each are moving on two parallel tracks with a uniform speed of 72 km/h in the same direction, with A ahead of B. The driver of B decides to overtake A and accelerates by  $1\text{m/s}^2$ . If after 50s, the guard of B just brushes past the driver of A. What was the original distance between them?
- Q.30 (a) In the relation  $y = A \sin(\omega t - kx)$ , where 'x' is position at time 't'. Find the dimensions of  $(\omega/k)$ .  
Name the physical quantity it represents.  
(b) Mention any two limitations of dimensional analysis.
- Q.31 The frequency( $\nu$ ) of an oscillating drop depends upon radius( $r$ ) of the drop, density( $d$ ) and surface tension( $S$ ) of the liquid. Deduce an expression for frequency ( $\nu$ ) dimensionally.

**OR**

On the basis of dimensions, convert 100W of power into a system, which has 250g, 20cm and half minute as fundamental units of mass, length and time.



:: 3 ::

- Q.32(a) If vector product of two vectors  $\vec{A}$  &  $\vec{B}$  is  $\vec{C}$ , name the rule used to determine the direction of  $\vec{C}$ .  
(b) Determine a unit vector perpendicular to both  $\vec{A} = 2\hat{i} + \hat{j} + \hat{k}$  and  $\vec{B} = \hat{i} - \hat{j} + 2\hat{k}$ .

OR

- (a) Write the expression for scalar product of two vectors  $\vec{A}$  &  $\vec{B}$ . State the condition if  $\vec{A}$  is perpendicular to  $\vec{B}$ .  
(b) Find the value of 'p', if vectors  $\vec{A} = 2\hat{i} + 3\hat{j} + p\hat{k}$  and  $\vec{B} = 3\hat{i} - 4\hat{j} + \hat{k}$  are perpendicular to each other.
- Q.33(a) Define impulse of a force.  
(b) A batsman deflects a ball by an angle of  $90^\circ$  without changing its initial speed of 54 km/h. What is the impulse imparted to the ball? Mass of the ball is 150g.
- Q.34 Derive an expression for velocity with which vehicle can go round a banked road without skidding. What will be the safe limit for maximum speed if there is no friction between the road and the tyres?

#### SECTION : D

- Q.35 A projectile is fired with a velocity 'u' making an angle ' $\theta$ ' with the horizontal. Show that its trajectory is a parabola. Derive expressions for : (i) Time of flight (ii) Horizontal range.

OR

'Uniform circular motion is an accelerated motion'. Justify briefly. An object is revolving in a circular path of radius 'r' with a uniform speed 'v'. Derive an expression for centripetal acceleration. Explain what is the direction of centripetal acceleration during its motion?

- Q.36(a) Using graphical method, derive the following equation,  $v^2 - u^2 = 2as$ .  
Where symbols have their usual meanings.

- (b) A player throws a ball upwards with an initial speed of  $29.4 \text{ m s}^{-1}$ , (a) What are the velocity and acceleration of the ball at the highest point of its motion? (b) To what height does the ball rise and after how long does the ball return to the player's hands? (Take  $g = 9.8 \text{ m s}^{-2}$  and neglect air resistance).

OR

- (a) Using graphical method, derive the following equation,  $s = ut + \frac{1}{2}at^2$ . Where symbols have their usual meanings.  
(b) From the top of a tower of height 100m a ball is dropped and at the same time another ball is projected vertically upwards from the ground with velocity  $25 \text{ m s}^{-1}$ . Find when and where the balls will meet? (Take  $g = 10 \text{ m s}^{-2}$ ).
- Q.37(a) State and prove law of conservation of linear momentum, using Newton's second law of motion.  
(b) Two objects A and B of masses 1 and 3 Kg are held by a compressed massless spring and are at rest. When the spring is released, object A moves to the left with a velocity of 9 m/s. What is the velocity (magnitude and direction) of object B?

OR

- (a) Define angle of friction and angle of repose and establish relation between them.  
(b) The rear side of a truck is open and a box of 40 kg mass is placed 5 m away from the open end as shown in Figure below. The coefficient of friction between the box and the surface below it is 0.15. On a straight road, the truck starts from rest and accelerates with  $2 \text{ m/s}^2$ . What is the acceleration attained by the box before it falls off the truck? (Ignore the size of the box & take  $g = 10 \text{ m s}^{-2}$ ).



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# DELHI PUBLIC SCHOOL, BHILAI

Date : 09.09.2019

FIRST TERM EXAMINATION, 2019

Time : 3 hrs.

Class - XI

SUBJECT – ACCOUNTANCY

M.M. 80

## GENERAL INSTRUCTIONS :

- (i) Marks of each question have been indicated against it.
- (ii) All questions are compulsory.
- (iii) Avoid overwriting and cutting.
- (iv) Give calculations or working notes wherever required.
- (v) All points of the questions should be attempted at one place.

- Q.01 Which off the following is not a qualitative characteristic of accounting information? (1)  
(A) Reliability (B) Understandability (c) Compatibility (D) Materiality
- Q.02 Which is the last step of accounting as a process of information? (1)  
(A) Recording the transaction (B) Preparation of financial statements  
(C) Communication of information (D) Analysis and interpretation of information
- Q.03 Books of Account are written on the basis of: (1)  
(A) Source Document (B) Accounting Voucher (C) Both (a) and (b) (D) None of these
- Q.04 Credit Purchase of furniture is recorded through: (1)  
(A) Transfer Voucher (B) Cash Voucher (C) Debit Voucher (D) Credit Voucher
- Q.05 A trader made a sale of ₹ 65,500 out of which cash sales amounted to ₹ 25,000 he showed trade receivables as on 31<sup>st</sup> March, 2019 at ₹ 40,500 which concept is followed by him (1)  
(A) Going Concern (B) Cost (C) Accrual (D) Money Measurement
- Q.06 What is the number of categories of GST for accounting purpose? (1)  
(A) 5 (B) 6 (C) 7 (D) 4
- Q.07 Bank Reconciliation Statement is prepared by (1)  
(A) Creditors (B) Debtors (C) Bank (D) Account holder
- Q.8 Bank Reconciliation Statement is (1)  
(A) Part of Double Entry System (B) Not a part of Double Entry System  
(C) Part of Bank Statement (D) Single Entry System
- Q.9 When the total of debit side of an account exceeds the total of its credit side, the account is said to have: (1)  
(A) Credit Balance (B) Debit Balance (C) Debit as well as credit balance (D) Debit Total
- Q.10 Name the category of accounts that are balanced? (1)
- Q.11 Explain Revenue Recognition Concept? (1)
- Q.12 Resignation of marketing manager is not recorded in the books of account. Why? (1)
- Q.13 What is Opening Entry? (1)
- Q.14 Give the meaning of Consistency Convention? (1)
- Q.15 Closing stock is valued at lower of cost or market price, which concept of accounting is applied here? (1)
- Q.16 Capital is the liability for the business. Explain the statement with the principle applied. (1)
- Q.17 Cash Book Balance was Rs. 1,790 (Dr.) when compared with the Bank Statement unrepresented cheques were ₹ 1,040 and deposits but not credited were ₹ 820. What was the balance in the Bank Statement? (1)
- Q.18 Name the account to be credited along with the amount for the payment to Ajay of ₹ 5000 by cheque in full settlement of ₹ 5500. (1)

Contd...2



- Q.19 Arihant & company purchased goods from Kritika & company for 5,00,000 plus CGST and SGST at the rate of 6% each. As per the terms if Arihant and company made full payment to Kritika and company within 15 days it will get cash discount of 2%. Arihant & company paid full amount within the stipulated time determine the amount of cash discount that Arihant and company will get. (1)
- Q.20 On the basis of the narration, fill in the missing values: (1)

Date	Particulars	LF.	Debit ₹	Credit ₹
1.04.2019	..... To..... (Being the loan taken against fixed deposit)	Dr.	20,000	20,000

- Q.21 On 31<sup>st</sup> March, 2019, the total assets and external liabilities were ₹1,00,000 and ₹30,000 respectively. During the year, the proprietor has introduced additional capital of ₹10,000 and had withdrawn ₹6,000 for personal use. He made a profit of 10,000 during the year. Calculate the capital as on 1 April 2018. (3)
- Q.22 Define Accounting. Explain any two limitations of accounting? (3)
- Q.23 Prepare an accounting equation from the following (4)
- Started business with cash ₹5,00,000 and out of which cash ₹3,00,000 deposited into bank
  - Purchased goods for cash 1,00,000 and on credit from Varnita ₹50,000.
  - Goods costing ₹60,000 were sold for ₹75,000 in credit to Samar.
  - Rent paid ₹15,000 to landlord and ₹30,000 is due.
- Q.24 Write any four differences between Cash Basis and Accrual Basis of Accounting. (4)

OR

- Bhaskar, a Consultant, during the financial year 2018-19 earned ₹8,00,000. Out of which he received ₹7,00,000. He incurred an expense of ₹3,40,000, out of which ₹80,000 are outstanding. He also received consultancy fees relating to previous year ₹90,000 and also paid ₹20,000 expense of last year. You are required to determine his income for the year
- If he follows cash basis of accounting.
  - He follows accrual basis of accounting.

- Q.25 Pass the opening entry on 1<sup>st</sup> April, 2019 and on the basis of the following information taken from the books of Ramandeep. Also post the opening entry into Ledger (4)
- Cash in Hand ₹20,000; Sundry Debtors ₹80,000; Building ₹50,000; Bank Loan ₹30,000.
- Q.26 Explain the meaning of the following terms with one example of each: (4)
- (a) Drawings (b) Business Transaction (c) Fictitious Assets (d) Merchandise.
- Q.27 Prepare Trial Balance of Anand from the following information as on 31<sup>st</sup> March, 2019: Purchases ₹70,500; Stock (1-04-2018) ₹25,000; Capital ₹60,000; Return Outwards ₹2,000; Sales ₹90,000; Return inward ₹1,500; Drawings ₹7,000; Furniture ₹15,000; Bills Receivables ₹10,000; Bills Payables ₹11,000; Investment ₹16,000; Goodwill ₹6,000; Bank Loan ₹15,000; Interest on Loan ₹2,500; Debtor ₹24,000; Creditors ₹22,000; Discount Allowed ₹2,500; Salary ₹12,000; Rent ₹8,000; Stock (31-03-2019) ₹24,000 (not adjusted). (4)
- Q.28 Give the modern rules of debit and credit and explain them with imaginary examples. (6)

OR

From the following transactions, state the nature of account and state which account will be debited and which account credited:

- Purchase goods on credit from Anshul ₹60,000
- Paid salary to Clerk ₹10,000.
- Provide interest on capital ₹5,000
- Paid to creditor Anshul ₹10,000 on account.
- Goods ₹5,000 withdrawn by proprietor for his personal use.
- Wages ₹6,000 outstanding.



- Q.29** Journalize the following transaction in the books of Jonita, Delhi: (6)
- Raman of Alwar, Rajasthan who owed Mohan ₹ 25,000 become insolvent and received 60 paise in a rupee as full and final settlement.
  - Goods purchased for Rs. 5,000 were used by the proprietor for personal purpose which were purchase by paying IGST @ 18%.
  - A cheque for Rs. 50,000 received from Rajeev was deposited into bank, returned dishonoured.
  - Sold to Sunil goods in cash of ₹ 10,000 less 10% trade discount plus CGST and SGST @ 6% each and received a net of ₹ 8500.
  - Provide interest on capital of ₹ 1,00,000 @10% per annum.
  - Purchased goods from Vijay of ₹ 40,000 Plus IGST@ 18% at 10% trade discount and 3% cash discount. Paid full amount in cash and availed cash discount.

- Q.30** Point out in which subsidiary books the following transaction will appear: (6)
- Withdrew cash from bank.
  - Cheque of Arushi endorsed to Priyanshi.
  - Returned goods to Atishay .
  - Charged interest on drawing.
  - Sold goods to Jagriti in credit.
  - Sonal sold goods to us.

**OR**

Enter the following transactions in the Sales Book of M/S Alankar & Co. Raipur: 2019

- |         |  |
|---------|--|
| May, 4  | Sold to Gupta Bros. New Delhi (Invoice No. 175)<br>10 dozens pencils @ ₹ 20 per dozen<br>14 gross eraser @ ₹ 5 per dozen<br>Less: 5% Trade discount.<br>IGST @ 6%  |
| May, 14 | Sold to M/s R.K. Traders Bilaspur (Invoice No.200)<br>5 dozen gum bottles @ ₹ 5 per bottle<br>70 dozens rulers @ ₹ 15 per dozen<br>Less: 10% Trade Discount<br>CGST and SGST @ 6% each.  |
| May, 17 | Sold old newspapers to M/s Chiman for ₹ 200 (Invoice No.215)   |
| May, 21 | Sold to M/s Rajendra & Co. Ghaziabad (Invoice No.255)<br>10 reams of paper @ ₹ 60 per ream<br>Less: Trade Discount @ 10%<br>IGST @ 9%  |
| May, 25 | Sold to M/s Dhyanchand & Co. Delhi for cash (Invoice No. 285)<br>10 dozen pens @ ₹ 120 per dozen<br>15 Accounts books @ ₹ 120 each<br>Less : 10% trade discount and 2% cash discount terms and received cheque from him.<br>Add: IGST 9% |
| May, 30 | Sold to Cheap Stores, Bhilai (Invoice No.299)<br>10 dozens pencils @ ₹ 18 per dozen<br>20 dozen small cover @ ₹ 150 per dozen<br>Less: Trade Discount @ 10%<br>Add: CGST & SGST @ 6% /   |

- Q.31** Prepare Cash Book from the following transaction of M/s Ramandeeep Traders for the month of March 2019: (8)

		₹
March 1	Cash in hand	30,000
	Cash at bank	20,000
March 3	Received cheque from Mangal Singh	5,000
March 4	Paid to Anjan by cheque Rs 1940 in full settlement of	2,000
March 10	Paid salary for the month by cheque	1,500

Contd...3

March 12	Bank charges	300
March 18	Received a cheque from Manpreet and paid into the bank	4,000.
March 22	Drew from bank for office use	2,000.
March 24	Mangal singh Cheque deposited into bank	
March 27	Withdrawn from bank for personal use.	2,000
March 29	Paid to Simran her debt of ₹ 6000 by way of Cheque of	5,800.
March 31	Purchased Stationary for ₹ 4,480 including CGST and SGST @ 6% each by cheque.	

OR

Write up the following transactions in cash book with bank column

2019

- April 1. Balance in hand ₹ 800 and overdraft at bank ₹ 52,000
- April 3. Received cash from Amar for goods sold last month ₹ 20,000
- April 7. Sold goods for cash ₹ 22,400 including CGST and SGST @ 6% each.
- April 8. Received cheque from Pankaj of ₹ 1,000.
- April 10. Cheque received from Pankaj deposited into bank
- April 15. Settled Manish account ₹ 4,050 by a cheque of ₹ 4,000.
- April 20. Received from Sanjeev ₹ 5,000 for bad debts written off last year
- April 26. Drawn from bank for personal expenses ₹ 4,000.
- April 28. Pankaj cheque returned dishonoured by bank.

Q.32 Prepare Bank reconciliation statement as on 31<sup>st</sup> March, 2019

- (i) Credit Balance as per pass book ₹ 3,450
- (ii) Cheques deposited into bank ₹ 8,500 but cheques for only ₹ 6,850 were credited by bank till date.
- (iii) Cheques drawn for ₹ 7,450 of which cheques for ₹ 5,240 were cashed by 31<sup>st</sup> March.
- (iv) Bank credited ₹ 200 for interest and debited our account with ₹ 120 towards bank charges which were not recorded in the cash book.
- (v) A customer deposited ₹ 800 in our bank account is recorded twice in the cash book.
- (vi) Bill discounted dishonoured not recorded in the cash book ₹ 5,000.
- (vii) A cheque of ₹ 600 debited in the cash book omitted to be banked.
- (viii) Cash book payment side undercast by ₹ 500.

(8)

OR

From the Following are the information provided to you. You are required to prepare a Bank Reconciliation Statement on 31<sup>st</sup> March, 2019:

- i. Overdraft as per pass book on 31<sup>st</sup> March, 2019 ₹ 18,000.
- ii. Interest on investment collected by bank, appeared only in the pass book ₹ 7,500.
- iii. Cheques drawn for ₹ 5,000 but out of it only ₹ 3,000 was presented for payment till 31<sup>st</sup> March 2019.
- iv. A bills receivable discounted with bank recorded in cash book with ₹ 7,500, but was credited in pass book with actual receipt of ₹ 7,225.
- v. Insurance premium debited by bank and entered twice in the pass book ₹ 3,000.
- vi. Cheques deposited but not yet credited by bank ₹ 4,000.
- vii. Interest on overdraft debited by bank ₹ 500 the information of which was received on 5<sup>th</sup> April, 2019.
- viii. A payment side of the cash book was undercast by ₹ 3,000.





# DELHI PUBLIC SCHOOL, BHILAI

Date : 11.09.2019  
Class - XI

FIRST-TERM EXAMINATION, 2019  
SUBJECT – ENGLISH (CORE)

Time : 3 Hrs.  
M.M. 80

## GENERAL INSTRUCTIONS :

- The Question paper is divided into three sections : A, B and C.
- All the sections are compulsory.
- Specific instructions, wherever necessary, are given. Follow them strictly

### SECTION-A : READING SKILLS

(20)

**Q 1. Read the passage carefully and answer the questions given below.**

(08)

A good business letter is one that gets results. The best way to get results is to develop a letter that, in its appearance, style, and content, conveys information efficiently. To perform this function, a business letter should be concise, clear, and courteous.

The business letter must be concise. Little introductory or preliminary chat is necessary. Get to the point, make the point, and leave it. It is safe to assume that your letter is being read by a busy person with all kinds of correspondence to deal with. Such a person does not want to spend time on a newsy letter about your ski trip or medical problem. Hone and refine your message until the words and sentences you have used are precise. Revision and rereading take time but are a necessary part of writing a good letter. A short business letter that makes its point quickly has much more impact on a reader than a long-winded, rambling exercise in creative writing. This does not mean that there is no place for style or even, on occasion, humour in the business letter. While it conveys a message in its content, the letter also provides the reader with an impression of you, its author. Your style is part of the message.

The business letter must be clear. You should have a firm idea of what you want to say, and you should let the reader know it. Be sure to use an accepted business-letter format. There are several, and they can be found in any book of business English. Use the structure of the letter—the paragraphs, topic sentences, transitions—to guide the reader point by point from your introduction, through your reasoning, to your conclusion. Paragraph often, to break up the page and to provide visual cues to the organisation of your letter. Reread what you have written from the point of view of someone who is seeing it for the first time, and revise to be sure that all necessary information is provided (including reference numbers, dates, and other identification) and that all explanations are clear. A clear message, clearly delivered, is the essence of business communication.

The business letter must be courteous. Sarcasm and insults are ineffective and can often work against you. If you are sure you are right, point out the fact as politely as possible, explain why you are right, and outline what you expect the reader to do. Always put yourself in the place of the person to whom you are writing. What sort of letter would you respond to? How effective would sarcasm and threats be in making you fulfil a request? Another form of courtesy is taking care in your writing or typing. Grammatical and spelling errors (even if you call them typing errors) tell a reader that you don't think enough of him or her to be careful. Such mistakes can lower the reader's opinion of you faster than anything you say, no matter how idiotic. There are excuses for ignorance; there are no excuses for sloppiness.

The business letter is your custom-made representative. It speaks for you and is a permanent record of your message. It can pay big dividends on the time you invest in giving it a concise message, a clear structure, and a courteous tone.

- (a) Make notes on the passage in an appropriate format, using at least four, abbreviations and/or symbols. Suggest a suitable title as well. (05)
- (b) Write a summary of the passage in not more than 80 words. (03)

**Q 2. Read the passage given below and answer the questions that follow:**

(12)

1. It is common knowledge that school children are under great pressure to perform well in all fields, study ten subjects, play games and develop an impressive image. How do they manage? The skills, techniques and principles which they pick up while still young help them cope.

Contd...2



2. Two of twentieth century's finest minds have lamented that schools are not teaching the basics of personal excellence or the science of success. Edward De Bono said, "Almost all of what a child learns at school after the age of ten is totally irrelevant to his need in later life. Most schools do not teach thinking at all." The serious thesis of this article is that management must be taught as a school subject. The weightiest argument is that children are managers.
3. Many children are called upon to play directly, three of the interpersonal roles: 'Figurehead', 'Leader' and 'Liaison Officer'. They do this while assisting teachers as monitors or class representatives or group leaders during educational tours and field work; while captaining teams on playgrounds; and while leading teams in quiz, debating and other competitions.
4. The decision role of 'Entrepreneur' and 'Resource Allocator' may only occasionally be assigned to children. However, it is worth noting that, according to a recent survey in Delhi, a monthly allocation of up to Rs. 1000 is available as pocket money to school children. Therefore, school children too need to have control over money and to develop a sense of budget. If we add to these financial resources, the resources of time, information and intellect available to children, the first two decision roles are not irrelevant to them.
5. Children play the other two decision roles- 'Disturbance Handler' and 'Negotiator' more often. True, the international roles of monitor, disseminator and spokesman are not so frequently and formally engaged in by children as by CEOs, MDs, Vice Presidents and other adult managers.
6. If you cannot see children as managers, they are managers in the making. Many of the desirable qualities of a good manager, such as management habits (e.g., using a to-do list), management skills (e.g. Sensitive listening), management attitudes and values are formed early in life. Personality theorists believe that it is extremely difficult to change personality traits, styles of thinking and habits of behaviour once they are formed.
7. As in language learning, where basic aspects of language like pronunciation and rhythm are extremely resistant to learning after puberty, good management habits, attitudes and values are difficult to acquire in adulthood. In the fifties, even in the educationally advanced countries such as the U.S., Algebra was thought to be too abstract to be taught even in senior schools. Now it is taught from upper primary classes onwards in both educationally progressive and developing countries. Computer skills, lateral thinking and swimming, often felt to be forbidden by adults are easily learnt by children. In fact, both research evidence and specialists' beliefs strongly support the view that children's ability to learn skills like swimming and creative thinking is much more developed than adults. Equally important, complex organisms (a) learn what is necessary or pleasurable and (b) adapt themselves in ways that will serve their needs and interests with amazing enthusiasm, ease and effectiveness.

**I. On the basis of your reading of the above passage, answer the following questions by choosing the correct option given below:**

(1X 6=6)

- (a) The reason of pressure on children is:
  - i. Common knowledge
  - ii. Absence of skills
  - iii. Choice between studies and games
  - iv. Performance demand in all fields
- (b) What according to few educationists, is lacking in school teaching?
  - i. Basics of personal excellence
  - ii. Science of success
  - iii. Thinking
  - iv. All of the above
- (c) The sense of budget among children is an indication towards their capability of performing:
  - i. Interpersonal role
  - ii. Decision role
  - iii. Leading role
  - iv. Informational role
- (d) The article advocates teaching ..... as a subject in school.
  - i. Management
  - ii. Creative Thinking
  - iii. Computer skills
  - iv. Swimming
- (e) Which word in Para 7 is opposite in meaning of "concrete"?
  - i. Algebra
  - ii. Acquire
  - iii. Resistant
  - iv. Abstract
- (f) The terms used for a detailed critical inspection study in Para 4 is:
  - i. Intellect
  - ii. Resource Allocator
  - iii. Survey
  - iv. Budget



**II. Answer the following questions briefly:**

**(1X6=6)**

- (a) What are the interpersonal roles performed by students ? (Any two)
- (b) What are the attributes of good management ? (Any two)
- (c) Why is it difficult to acquire good management habits in adulthood ?
- (d) Which roles according to the author are occasionally performed by the students ?
- (e) Which word in the above passage means the same as - Regretted (Para 2)
- (f) Which word in the above passage means the same as - officially (Para 5)

**SECTION-B : WRITING SKILLS AND GRAMMAR**

**(30)**

**Q.3.** Water is precious for mankind. Draft a poster advising citizens on ways to save water. **(04)**

**OR**

As the Vice-principal of your school, write a notice informing the students about the extra classes in Maths, Science and Accountancy being organised during the Dussehra holidays for students of classes XI and XII. Give all necessary details. (50 words)

**Q.4** Your family has been consuming Yummy Food's breakfast cereal for many years. However, your recent purchase of the product has been unsatisfactory. Write a letter to the manager of Yummy Food detailing your complaint. (120-150 words) **(06)**

**OR**

You are Sandeep Kumar, Administrator, R.K. Academy. You have to place an order for furniture required by the school. Ask for a quotation of prices from a local furniture manufacturer, listing the items required. Also ask for a discount on bulk purchase. (120-150 words)

**Q.5** You are C.K. Gupta of Bhilai. Write a letter to the editor of a newspaper in 150-200 words about the rising prices of daily use commodities and the difficulties the common man has to face due to it. **(06)**

**OR**

You are Rohit Khandelwal of Kanpur. You have come across an advertisement of a coaching centre that prepares students for the Pre Medical Test. Write a letter to the director of the institute asking for information that you require before deciding to join it. (120-150 words)

**Q.6.** A recent eye check up camp held in your school revealed that many of your classmates were suffering from weak eyesight. You feel concerned and decide to speak in the morning assembly on 'How to protect your eyesight'. You are Mansi / Manav. Write your speech in 150-200 words using the following clues.

*Reading in poor light-bad posture-wrong direction of light-excessive mobile and computer viewing. Regular washing of eyes-enough sleep-diet should contain adequate green vegetables.* **(08)**

**OR**

You are Renu / Rachit. Write an article for your school magazine on 'Journalism as a Career'. You may use the following points as well as ideas of your own.

*Journalism - suitable for those good at languages - who desire to present the truth to the public - challenging and dynamic - new forms: TV, print media, sports, travel, investigative - can bring name, fame and money - needs courage and honesty.* (150-200 words)

**Q.7** The following passage has not been edited. There is one error in each line. Write the incorrect word and correction in your answer sheet as given below, against the correct blank number. The first one has been done as an example. **(1/2x4=02)**

	INCORRECT	CORRECTION
Amnesty International, an worldwide	e.g. an	a
(a) organisation for the defence to human	(a) _____	_____
(b) rights, is one of the few institution	(b) _____	_____
(c) to have win the Nobel Peace prize.	(c) _____	_____
(d) It was award the Peace Prize in 1977.	(d) _____	_____

**Q.8** In the passage below, one word has been omitted in each line. Write the missing word along with the word that comes before and the word that comes after, against the correct blank number. The first one has been done as an example. **(1/2x4=02)**

	Before	Missing	After
'Namaste' is made up two Sanskrit words	e.g. up	of	two
(a) which I bow to the God within you.	(a) _____	_____	_____
(b) The palms joined in front of the chest	(b) _____	_____	_____
(c) and the head slightly bowed.	(c) _____	_____	_____
(d) This not just a polite greeting.	(d) _____	_____	_____

**Contd...4**



**Q.9 Rearrange the following words/phrases into meaningful sentences.**

(1x2=02)

**For example:** greatest / one / Mother Teresa / of the / of our / time / missionaries/was

Mother Teresa was one of the greatest missionaries of our time.

- (a) dedicated/ to / her/ the poorest/ service/ of the poor/ entire life/ she/ the/ of  
(b) unwanted/ was/ apostle/ she/ of/ the/ an

**SECTION-C: LITERATURE**

(30)

**Q 10. Read the following extract.**

(1x2=02)

Eternal I rise impalpable out of the land and  
the bottomless sea,

Upward to heaven, whence, vaguely form'd, altogether changed,  
and yet the same.

Answer **any two** of the following:

- a. What is the poetic device used in the first line ?  
b. Explain – 'altogether changed, and yet the same'.  
c. Which form does 'vaguely formed' refer to ?

**OR**

The sea holiday

Was her past, mine is her laughter. Both wry  
With the laboured ease of loss.

Answer **any two** of the following :

- a. Why did the poet's mother laugh at the snapshot ?  
b. What was the poet's loss ?  
c. Which poetic device has been used in the last line ?

**Q 11. Answer any five of the following questions in about 30 words, each .**

(2x5= 10)

- a. Which thought about his grandmother did Khushwant find revolting and why ?  
b. How did Sue try to lighten the gloomy atmosphere on board the Wavewalker ?  
c. 'Eternal I rise'. What gives eternity to the rain ?  
d. Describe Aram's first solo ride on the horse.  
e. Why was Mrs. Dorling cautious while opening the door ?  
f. What happened when Ranga returned to his village from the city ?

**Q 12. Answer any one of the following questions in about 120-150 words.**

(06)

The grandmother's is a silent voice in the story. However, her actions reveal her personality. Draw a character sketch of Khushwant Singh's grandmother citing examples from the text.

**OR**

Imagine you are Khushwant Singh. Record the changes that came in your relationship with your grandmother as you grew from a kid to a university student.

**Q 13. Answer any one of the following questions in about 120-150 words.**

(06)

The story, 'The Summer of the Beautiful White Horse' conveys the message of honesty and integrity. How do the characters maintain these qualities in spite of their desire to keep the horse with themselves?

**OR**

Why had the narrator remembered Mrs. Dorling's address? Why did she now want to forget the address?

**Q 14. Answer any one of the following questions in about 120-150 words.**

(06)

Everyone on board did contribute to save the Wavewalker. Justify.

**OR**

What inspired Gordon Cook to undertake such a risky venture ? What preparation did he make for his round – the – world voyage?





**General Instructions-**

1. All questions are compulsory.
2. 1 mark questions should be answered in one sentence or word.
3. 3 marks questions should be answered in about 40 to 50 words or in three points.
4. 4 marks questions should be answered in about 60 to 70 words or as per the question.
5. 6 marks questions should be answered in about 110 to 120 words or as per the question.

**MICRO ECONOMICS [PART I]**

- 1) At the point of Satiety MU is \_\_\_\_\_ (1)
- 2) Slope of an indifference curve is measured by \_\_\_\_\_ (1)  
a) MRT      b) MRS      c) MOC      d) None of these
- 3) If  $MU_y = 20$ ,  $MU_x = 60$ ,  $P_y = 4$ , then what will be the price of X at equilibrium. (1)  
a) ₹ 12    b) ₹ 10    c) ₹ 8    d) ₹ 6
- 4) There will be a \_\_\_\_\_ in the demand curve of cars with an increase in the price of petrol. (1)
- 5) If due to fall in the price of good X, demand of good Y rises, then goods are called \_\_\_\_\_ (1)  
(a) Substitute goods (b) Complementary goods (c) Not related goods (d) Competitive goods
- 6) Define 'Change in demand'. (1)
- 7) Demand for water is inelastic because (1)  
(a) It is abundant (b) it is necessity (c) It's use can be postponed (d) None of these
- 8) What will be elasticity of demand curve that is horizontal line parallel to X-axis. (1)  
(a)  $E_d = 0$ , (b)  $E_d = 1$ , (c)  $E_d > 1$ ,  $E_d = \infty$
- 9) Demand for necessary goods is elastic or inelastic. (1)
- 10) Which of the following will have elastic demand. (1)  
(a) Match box (b) NCERT Text book (c) Medicines (d) Air conditioners
- 11) (a) What are the properties of indifference curve? (3)  
(OR)  
(b) Explain budget line when there is change in price of both the commodities.
- 12) Give any three factors that can cause a rightward shift of demand curve. (3)
- 13) Distinguish between market economy & centrally planned economy. (any 4 difference). (4)
- 14) Explain 'What to produce' with the help of an example. (4)
- 15) (a) Explain price elasticity of demand. What are the factors that affect elasticity of demand. (any 4 factors) (2+2=4)  
(OR)  
(b) Explain in brief the following price elasticities of demand with diagrams.  
(a) Highly elastic demand.  
(b) Perfectly Inelastic demand.
- 16) (a) Explain how do the following influence demand for a good with the help of a diagram. (2+2+2=6)  
(a) Rise in income of the consumer  
(b) Decrease in the price of complementary goods.  
(c) Increase in the price of substitute goods.  
(OR)  
(b) Distinguish between –  
(a) Individual demand & market demand  
(b) Change in demand & change in quantity demanded
- 17) Explain consumer's equilibrium by indifference curves analysis with the help of a diagram. What are the conditions of consumer's equilibrium. (6)

**STATISTICS (PART II)**

- 18) Major cause of economic problem is related to – (1)  
(a) Plenty of resources (b) Scarcity of resources (c) Inflation (d) All of these
- 19) Who is known as the 'Father of Economics'? (1)  
(a) Marshall (b) Robbins (c) Adam Smith (d) Samuelson



- 20) Data collected by RBI will mean for you as \_\_\_\_\_ (1)  
 (a) Primary (b) Secondary (c) Original (d) None of these
- 21) Mention two important precautions in the use of secondary data. (1)
- 22) Which of the following errors is more serious and why? (1)  
 (a) Sampling error (b) Non- Sampling error
- 23) The class mid-point is equal to : (1)  
 (a) The average of the upper class limit & lower class limit  
 (b) The product of the upper class & lower class  
 (c) The ratio of the upper class limit & lower class limit  
 (d) None of these
- 24) Name the series which have class interval. (1)
- 25) Ogive can be helpful in locating graphically the (1)  
 (a) Mode (b) Mean (c) Median (d) all the above
- 26) The algebraic sum of deviation of items from arithmetic mean ( $\bar{X}$ ) is always zero (True or false) (1)
- 27) Write any two merits of Arithmetic mean. (1)
- 28) What is Primary Data? Write any two limitations of it. (1+2=3)
- 29) a) Represent the following data by an appropriate bar diagram. (3)

Year	Import in current price (thousand crore)	Export in current price (thousand crore)
2002-03	139	119
2003-04	154	130
2004-05	176	142
2005-06	149	119

(OR)

- b) Present the data given in a histogram.

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	4	10	16	22	20	18	8	2

- 30) Enumerate the limitations of statistics in detail. (any four). (4)
- 31) Give any two merits & two demerits of census survey. (2+2=4)
- 32) Explain characteristics of a good average. (4)

(OR)

Define arithmetic mean. Find the arithmetic mean by using assumed mean method. (take 35 as assumed mean).

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No. of students	5	10	25	30	20	10

- 33) a) What is class interval? Explain the exclusive and inclusive methods used in classification of data. From the following data prepare frequency distribution with a class interval of 5 on exclusive basis. (1+2+3=6)  
 10, 15, 25, 27, 29, 20, 24, 23, 22, 12, 14, 16, 17, 18, 19, 18, 16, 15, 5, 9

(OR)

- b) What is variable? Distinguish between a discrete & continuous variable. Convert the following simple frequency distribution into cumulative frequency distribution (less than & more than).

Class	0-10	10-20	20-30	30-40	40-50
Frequency	10	15	25	30	10

- 34) Define Pie diagram. What are the steps in its construction? Present the following data in the form of pie diagram. (1+2+3=6)

Sectors	%
Agriculture	20
Industry	28
Electricity	30
Transportation	12
Others	36



# DELHI PUBLIC SCHOOL, BHILAI

Date : 13.09.2019  
Class - XI

FIRST-TERM EXAMINATION, 2019  
SUBJECT – BUSINESS STUDIES

Time : 3 Hrs.  
M.M. 80

## GENERAL INSTRUCTIONS :

- The Question paper is divided into five sections : A, B, C, D and E respectively.
  - Section A** : consists of Question no. 1 to 20 of objective type carrying 1 mark each to be answered in 1 word.
  - Section B** : consists of Question no. 21 to 25 of 3 marks each, to be answered in about 50-75 words.
  - Section C** : consists of Question no. 26 to 28 of 4 marks each, to be answered in about 100 words.
  - Section D** : consists of Question no. 29 to 31 of 5 marks each, to be answered in about 150 words.
  - Section E** : consists of Question no. 32 to 34 of 6 marks each, to be answered in about 200 words.
- Attempt all parts of a question together.

### SECTION : A

- Q.01 Which one of the following is an example of PPP? (01)  
(a) Maruti Suzuki (b) Delhi Metro Railway Corporation (c) Tata Sky (d) Hero Honda
- Q.02 Which of the following contract is signed by the promoters with the third party on behalf of the proposed company? (01)  
(a) Provisional Contracts (b) Prospectus (c) Preliminary Contracts (d) Memorandum of Association
- Q.03 Chennai Refineries Ltd. import crude oil and separates different products like petrol, diesel etc. Name the type of manufacturing industry. (01)  
(a) Synthetical (b) Analytical (c) Processing (d) Assembling
- Q.04 Tata Ltd. purchased tyres from MRF Ltd. This is an example of ..... (01)  
(a) B2C Commerce (b) C2C Commerce (c) Intra B Commerce (d) B2B Commerce
- Q.05 Name the auxiliary to trade which removes the hindrance of time. (01)
- Q.06 "It refers to contracting out the activities that require greater skill, knowledge, education and expertise to handle." Which of the following concept is referred in above statement? (01)  
(a) BPO (b) Smart Card (c) KPO (d) Credit Card
- Q.07 Name the electronic currency that exists only in cyberspace. (01)
- Q.08 Mr. Mohan, a businessman incurred some financial loss due to the dishonesty of the workers. This loss is caused due to ..... (01)  
(a) Natural Cause (b) Financial Cause (iii) Human Cause (iv) Economic Cause
- Q.09 Application for approval of name of a company is to be made to which authority? (01)  
(a) Registrar of Companies (b) Government of India (c) SEBI (d) State Government
- Q.10 Which of the following is not covered under the 'Contract of Indemnity'? (01)  
(a) Fire Insurance (b) Marine Insurance (c) Theft Insurance (d) Life Insurance
- Q.11 Which of the following is not governed by a specific Act? (01)  
(a) Sole Proprietorship (b) Partnership (c) Cooperative society (d) Company
- Q.12 ..... requires special knowledge and skill in the occupation to earn fees. (01)
- Q.13 Insurable interest must exist at the time of loss only in case of ..... (01)  
(a) Life Insurance (b) Fire Insurance (c) Marine Insurance (d) Theft Insurance
- Q.14 The business operations in a Joint Hindu Family Business is controlled by ..... (01)
- Q.15 Government Company is completely owned, managed and controlled by a government ministry. (True/False) (01)
- Q.16 Overdraft facility is available on ..... (01)  
(a) Savings A/c. (b) Recurring Deposit A/c. (c) Fixed Deposit A/c. (d) Current A/c.
- Q.17 Reserve Bank of India has been set up as ..... form of Public Sector enterprise. (01)
- Q.18 Banker's cheque is also known as ..... (01)  
(a) Bank Draft (b) Demand Draft (c) Pay Order (d) Bearer Cheque
- Q.19 When two business enterprises agree to join together for a common objective and mutual gain, it gives rise to ..... (01)  
(a) Partnership (b) Joint Venture (c) Joint Stock Company (d) MNC
- Q.20 A leading hospital contract out the cafeteria activity to a catering firm. Identify the concept highlighted here. (01)
- ### SECTION : B
- Q.21 Nature Care Ltd. is a company manufacturing cosmetics in Mysore. It decides to expand its business to other parts of the country and even abroad by entering into a joint venture. The new business can pool in financial and human resources and will be able to face market challenges and take advantage of new opportunities. It will also allow both businesses to come up with something new and creative for the same market. It may also benefit one of the parties from other's goodwill.  
Identify the three benefits of joint venture highlighted above by quoting the lines. (03)



- Q.22** Aryan is running a take away fast food restaurant in Jaipur under the name 'Taste buds'. Recently when his cousin Vivek organised a party at his place, he had placed an order for food at 'Taste buds' worth ₹ 10,000. However, Aryan declined to take the money from Vivek because of his love and affection for him.  
In context of the above case :
- (a) Will this activity related to the supply of food from Aryan's Restaurant to Vivek be classified as a business activity? Why or why not?  
(b) Mention the related feature of business. (2+1=03)
- Q.23** Mr. 'H' a husband took the life insurance policy of Mrs. 'W', his wife. After one year, the couple got divorced and after two years his wife died. Is husband 'H' entitled to get compensation from the insurance company, if husband was regularly paying the premium amount? (03)
- Q.24** Explain any three types of partners in a partnership firm. (03)

**OR**

- Explain any three limitations of a partnership form of business. (03)
- Q.25** Shruti and Shreya, two fashion designers from Mumbai decided to sell their designer outfits to rich market segment by providing them facility of customising the outfit as per their needs. So they made a website 'my designer.com' as they don't want to spend too much finance on opening retail outlet in a costly market. Sooner they started getting good response not only from Mumbai but also from other cities like Delhi, Chandigarh, Jaipur etc.  
(a) Name the form of business highlighted above by quoting the lines.  
(b) Also identify and state two advantages of above form of business by quoting the lines. (1+2=03)

**SECTION : C**

- Q.26** What is meant by outsourcing of services? Explain any three reasons why outsourcing is needed. (1+3=04)

**OR**

- What are the resources required for successful e-business implementation? (04)
- Q.27** Akriti has set up a cement company on 18<sup>th</sup> September, 2018. She has got her company registered under Companies Act, 2013. From the date of its incorporation, it acquires an identity separate from its members. Like natural persons, it can own property, incur debts, borrow money and enter in to contracts. The Board of Directors of the company will appoint top officials for running the business.  
Identify and explain the four features of company form of organisation highlighted above by quoting the lines. (04)
- Q.28** Sahil is running a business of manufacturing invertors in Hyderabad. He has received an order for supply of 30 invertors from Shine Electronics in Surat. As the amount of payment is more than ₹ 2 lakhs, Shine Electronics decided to transfer the funds electronically from their bank account.  
(a) Which service of bank has been referred to in the above para? Name and explain it.  
(b) Also state any two benefits of e-Banking provided to customers by banks. (2+2=04)

**SECTION : D**

- Q.29** What are the various privileges available to a private company over the public company? (05)

**OR**

- What do you mean by 'One Person Company'? State its features. (1+4=05)
- Q.30** Harpreet is a farmer. His younger brother Harmmeet is a Company Secretary while his sister Jaspreet is a nurse in a hospital. Name the economic activities in which they are engaged and differentiate among them on the basis of (1+4=05)
- (a) Nature of Work (b) Transfer of Interest (c) Risk Element (d) Code of Conduct

- Q.31** What do you mean by Public Sector? Explain briefly the changing role of Public Sector. (1+4=05)

**OR**

- ABC Ltd. is a leading marketing company of soft drinks. Its 32% of total paid-up capital is held by Central Government and 21% is by Delhi Government.  
(a) Identify the form of public sector enterprise mentioned above.  
(b) Explain any four features of such an enterprise.

**SECTION : E**

- Q.32** Explain briefly any four principles of Insurance along with examples. (1½ x4=06)

**OR**

- Define Banking. Explain briefly the five types of accounts that can be opened with the banks. (1+5=06)
- Q.33** Pranav operates a textile business. His family is Joint and has a lot of ancestral property. All the 12 family members are a part of this business. He is the eldest male member in the family so he heads the business. He is liable to all the creditors of the business as he is the decision-maker. Pranav's grandson has just born a few days ago and he is also the member of the business.  
(a) Which form of business is being undertaken by Pranav?  
(b) Identify the features of this form of business by quoting the lines from the above Para.  
(c) Textile business is a part of which type of industry. State. (1+4+1=06)

- Q.34** What is meant by business risk? State briefly the two types of risk. Explain briefly any three nature of business risk. (1+2+3=06)

**OR**

- Explain briefly the different types of industries. (06)







## DELHI PUBLIC SCHOOL, BHILAI

Date : 13.09.2019

FIRST-TERM EXAMINATION, 2019

Time : 3 Hrs.

Class - XI

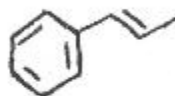
SUBJECT – CHEMISTRY

M.M. 70

### GENERAL INSTRUCTIONS :

- Question Nos. 1 to 20 carry **One Mark** each.
- Question Nos. 21 to 27 carry **Two Marks** each.
- Question Nos. 28 to 34 carry **Three Marks** each.
- Question Nos. 35 to 37 carry **Five Marks** each.

- Q.01 State Avagadro's Law. (01)
- Q.02 Write general electronic configuration of f-block elements. (01)
- Q.03 Draw Resonating Structures of  $CO_3^{2-}$  molecule. (01)
- Q.04 Find the oxidation number of underlined atom in  $NaH_2\underline{P}O_4$  (01)
- Q.05 Which of the following is not a Green House Gas? (01)  
 $O_3$ ,  $CO$ ,  $CH_4$ ,  $H_2O$  Vapours.
- Q.06 Define Bond Enthalpy. (01)
- Q.07 Write IUPAC name of an element with atomic number 117 (01)
- Q.08 All bonds in  $PCl_5$  molecule are not identical. Why? (01)
- Q.09 State Pauli's Exclusion Principle. (01)
- Q.10 Identify the oxidant in the following redox reaction :  $2S_2O_3^{2-} + I_2 \longrightarrow S_4O_6^{2-} + 2I^-$  (01)
- Q.11 Which of the following orbitals are possible? (01)  
 $1p$ ,  $2s$ ,  $2p$ ,  $3f$
- Q.12 Define Molefraction. (01)
- Q.13 Name any two gases causing Acid Rain. (01)
- Q.14 What is the difference between 0.5 mol  $Na_2CO_3$  and 0.5 M  $Na_2CO_3$ ? (01)
- Q.15 Write electronic configuration of  $Fe^{3+}$  ion (atomic number of Fe=26) (01)
- Q.16 Name the type to which following redox reaction belongs : (01)  
 $3CuSO_{4(aq)} + 2Al_{(s)} \longrightarrow Al_2(SO_4)_{3(aq)} + 3Cu_{(s)}$
- Q.17 Write the values of all the quantum numbers for 19<sup>th</sup> electron of Mn. (01)  
(Atomic number of Mn = 25)
- Q.18 How many  $\sigma$  and  $\pi$  bonds are there in the following molecule? (01)



- Q.19 Why LiCl is more covalent than NaCl? (01)
- Q.20 Assign the number of unpaired electrons in a free gaseous chromium atom. (01)  
(atomic number of Chromium = 24)
- Q.21 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. (02)

OR

Calculate the mass of a photon with wave length of  $3.6 \text{ \AA}$ .

- Q.22 Justify the following reactions to be redox : (02)  
(a)  $Fe_2O_3 + 3CO \longrightarrow 2Fe + 3CO_2$  (b)  $CuO + H_2 \longrightarrow Cu + H_2O$
- Q.23 Write favourable factors for the formation of ionic bond. (02)
- Q.24 Assign the position of an element in Periodic table with respect to its block and group satisfying the electronic configuration  $(n-1)d^3 ns^2$  for  $n=4$ . (02)
- Q.25 Justify that the following redox reaction is an example of disproportionation reaction. (02)  
 $2NO_2 + 2OH^- \longrightarrow NO_2^- + NO_3^- + H_2O$
- Q.26 (a) How many total electrons are present in fully filled sub shells having value of  $(n + l) = 5$  (02)  
(b) How many electrons in an atom have quantum numbers  $n = 3$  and  $l = 2$  ?

Contd...2



:: 2 ::

- Q.27** State Law of Multiple proportion. Explain the law by giving one example. (02)
- Q.28** An organic compound having molecular mass 60 is found to contain 20% carbon, 6.67% Hydrogen, 46.67% Nitrogen and rest Oxygen. Find out Molecular formula of the compound. (03)
- Q.29 (a)** Why the use of Chlorofluorocarbons being discouraged? (03)
- (b)** What is 'Global Warming'?

OR

- (a)** Write two points of difference between Classical Smog and Photochemical Smog.
- (b)** What do you mean by 'Green Chemistry'?
- Q.30 (a)** Write any two properties of d-block elements. (03)
- (b)** How would you justify the presence of 18 elements in the 5<sup>th</sup> period of periodic Table?
- Q.31** Balance the following redox reaction by ion electron method in basic medium : (03)
- $$\text{MnO}_4^- (\text{aq}) + \text{Br}^- (\text{aq}) \longrightarrow \text{MnO}_2 (\text{s}) + \text{BrO}_3^- (\text{aq})$$
- Q.32 (a)** The electronic configuration of valence shell of Copper is  $3d^{10}4s^1$  and not  $3d^94s^2$ . Why? (03)
- (b)** What do you understand by Photoelectric effect?
- (c)** Calculate the maximum number of emission lines obtained when excited electron of a Hydrogen atom in  $n=5$  drops to ground state.
- Q.33** Draw the structures of  $\text{SF}_4$ ,  $\text{BrF}_5$  and  $\text{ClF}_3$  on the basis of VSEPR theory. (03)

OR

Draw the orbital diagram of  $\text{CH}_4$ ,  $\text{C}_2\text{H}_4$  and  $\text{C}_2\text{H}_2$  on the basis of valence bond theory.

- Q.34** What do you mean by Anomalous behaviour? Write any four factors responsible for such behaviour of an element. (03)
- Q.35 (a)** Define limiting reagent. (05)
- 50 kg of  $\text{N}_2(\text{g})$  and 10 kg of  $\text{H}_2(\text{g})$  are mixed to produce  $\text{NH}_3 (\text{g})$ . Calculate the amount of  $\text{NH}_3$  formed.
- (b)** What is the concentration of sugar ( $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ ) in  $\text{mol L}^{-1}$  if its 20 g are dissolved in enough water to make a final volume upto 2L ?

OR

- (a)** Why molality is preferred to molarity while expressing the concentration of a solution? What is the concentration of nitric acid in moles per Kg. in a sample which has 69% of nitric acid by mass?
- (b)** Chlorine is prepared in the laboratory by treating manganese dioxide ( $\text{MnO}_2$ ) with aqueous hydrochloric acid according to the reaction :
- $$4\text{HCl} (\text{aq}) + \text{MnO}_2 (\text{s}) \longrightarrow 2\text{H}_2\text{O} (\text{l}) + \text{MnCl}_2 (\text{aq}) + \text{Cl}_2 (\text{g})$$
- How many grams of HCl react with 5g of manganese dioxide?
- Q.36 (a)** State Heisenberg's uncertainty Principle. (05)
- A microscope using suitable photon is employed to locate an electron in an atom within a distance of  $0.1\text{\AA}$ . What is the uncertainty involved in the measurement of its velocity?
- (b)** What is the wavelength of light emitted when the electron in a Hydrogen atom undergoes transition from an energy level with  $n=4$  to an energy level with  $n=2$  ?

OR

- (a)** Define Threshold frequency.
- 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.
- (b)** An element with mass number 81 contains 31.7% more neutrons as compared to protons. Assign symbol to the atom.
- Q.37 (a)** Explain the bonding and geometry of water molecule on the basis of Valence bond theory. (05)
- Why the bond angle of water is less than what is expected as per this theory?
- (b)** Why  $\text{BeH}_2$  molecule has a zero dipole moment although the Be-H bonds are polar?

OR

- (a)** Explain the bonding and geometry of ammonia molecule on the basis of Valence bond theory. Why the bond angle of ammonia is less than what is expected as per this theory?
- (b)** Although the electronegativity of Fluorine is higher than that of Hydrogen, dipole moment of  $\text{NH}_3$  is higher than that of  $\text{NF}_3$ . Why?





## DELHI PUBLIC SCHOOL, BHILAI

Date : 16.09.2019  
Class - XI

FIRST-TERM EXAMINATION, 2019  
SUBJECT – ENGINEERING GRAPHICS

Time : 3 Hrs.  
M.M. 70

### GENERAL INSTRUCTIONS :

- Attempt all questions.
- Internal choice is given in some questions.
- Use both side of drawing sheet if required.
- All dimensions are in mm.
- Missing and mismatching dimension if any may be suitably assumed.
- Follow the SP:46-2003 revised codes with first angle method of projection.
- Give your answer according to question.

- .....
- Q.01** Write the following sentence in single stroke capital letter of 10mm letter height, "Raipur is the capital of Chhattisgarh" (03)
- Q.02** What are the two important methods of projection and also explain all the main differences between the two methods? (07)
- Q.03** Construct a quadrilateral ABCD with AB=45mm, BC=55mm, CD=40mm, AD=60mm, AC=70mm (05)
- Q.04** Construct the Ellipse whose minor axis is 50mm and distance between the focus points is 65mm by using concentric circle method. (10)  
**OR**  
A Parabola has a width of 75mm and the depth of 40mm. Draw the parabola by using intersecting lines method.
- Q.05** Draw the involute of a circle whose diameter is 40mm. (09)  
**OR**  
Given a circle with diameter 50mm. Draw a sine curve for it, assuming a suitable scale for degree divisions on the x-axis.
- Q.06** Draw the projections of the following points on same XY line, (2×4=08)  
(a) P, 25mm above HP and 15mm in front of VP.  
(b) Q, 15mm below HP and 30mm behind VP.  
(c) R, 20mm above HP and 25mm behind VP.  
(d) S, in the VP and 30mm above HP.
- Q.07** A straight line AB of 35mm length has its one end A 15mm from HP and 20mm from the VP. Draw the projections of the line if it is parallel to VP and inclined at  $30^\circ$  to HP. Assume the line to be located in each of the four quadrants by turn. (2½×4=10)
- Q.08** A regular hexagon MNOPQR of side 30mm is parallel to VP. The two opposite parallel side of hexagon are perpendicular to HP. The center of the plane figure is 45mm above HP and 25mm in front of VP. Draw the front view, top view and side view (L) of the regular hexagon. (08)
- Q.09** Draw the projections of a circular lamina of 30mm diameter. The lamina is inclined at an angle of  $45^\circ$  to HP, such that the centre of lamina is 25mm in front of VP and 20mm above HP. (10)

~~~~~





# DELHI PUBLIC SCHOOL, BHILAI

Date : 16.09.2019  
Class - XI

FIRST-TERM EXAMINATION, 2019  
SUBJECT – BIOLOGY

Time : 3 Hrs.  
M.M. 70

## GENERAL INSTRUCTIONS :

- All questions are compulsory.
- The question paper consists of four sections A, B, C and D.
- Internal choice is given in all the sections. A student to attempt only one of the alternatives in such questions.
- Section A : contains 5 questions of 1 mark each.
- Section B : has 7 questions of 2 marks each.
- Section C : is of 12 questions of 3 marks each
- Section D : has 3 questions of 5 marks each.
- Wherever necessary, the diagram should be neat and properly labelled.

### SECTION : A

- Q.01** Name the algae that yield a commercial product agar. To which class these algae belong? (01)
- Q.02** How much air is left inside the lungs after a maximum forceful expiration in a healthy person? What term is used for this air? (01)
- Q.03** What type of cells line the spongoceol and canals in sponges? (01)
- Q.04** Name the person who proposed the system of binomial nomenclature. (01)
- OR**
- Name the smallest known prokaryote.
- Q.05** How are the following shape of bacterial cells technically described? (01)
- (a) Elongated, rod like (b) comma-like
- OR**
- Where are the receptors located in our body that can sense changes in CO<sub>2</sub> and H<sup>+</sup> concentration?

### SECTION : B

- Q.06** The wall of alimentary canal is made up of four layers. Name the layers. Also name the tissues that form these layers. (02)
- Q.07** Algae are quite aquatic plants, which range from the microscopic unicellular chlorella to massive marine algae called sea-kelps. They are divided into three divisions. (02)
- (a) Mention two criteria used for classification of algae.  
(b) Name an alga which is (i) haplodiplontic (ii) Diplontic
- Q.08** Define stroke volume. What is its value? (02)
- OR**
- Explain when and how two sounds of heart are produced.
- Q.09** Mention any four fundamental features that form the basis of classification of animals. (02)
- OR**
- How do animals of urochordata differ from those of cephalochordata with reference to notochord?
- Q.10** Name the vertebrae along with their number that form the vertebral column. How many pairs of false ribs are there? (02)
- Q.11** (a) Differentiate between cortical and juxtamedullary nephrons. (02)  
(b) Mention the values of osmolarity of the filtrate in the nephron in the (i) cortex and (ii) inner medulla respectively.
- Q.12** (a) Give the term used for the volume of air inspired or expired during normal respiration. What is the volume of this air? (02)  
(b) Why does exchange of respiratory gases continue to occur in the lungs even if you hold the breath for 30 seconds?

Contd...2

SECTION : C

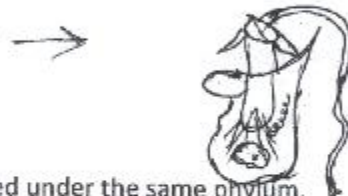
Q.13 Kingdom Protista is considered an assemblage of organisms. Explain. (03)

Q.14 What type of information do herbarium sheets contain? Explain how do herbaria serve as taxonomic aids in taxonomic studies. (03)

Q.15 (a) Identify the given picture.

(b) Name the phylum to which it belongs.

(c) What is the function of it?



OR

Give three reasons why a snail and an octopus are classified under the same phylum. (03)

Q.16 Draw a neat labelled diagram of a 'Funaria' showing gametophyte and sporophyte. (03)

Q.17 (a) Name the structural and functional units of liver.

(b) What is Glisson's capsule?

(c) What is sphincter of Oddi?

OR

What is PEM? Name its two types and differentiate between the two (Two differences) (03)

Q.18 (a) Draw a standard ECG and explain the different segments in it. (03)

(b) What is meant by hepatic portal system?

Q.19 Where is pneumotaxic centre located in the human body? Mention its role in the regulation of respiration. (03)

Q.20 Explain the RAAS mechanism in kidneys.

OR

Give a brief account of the counter current mechanism operating in kidneys. (03)

Q.21 What makes the synovial joint freely movable? List any four types of synovial joints with examples. (03)

Q.22 The blood flows strictly by a fixed route through blood vessels - the arteries and veins. These blood vessels consists of three layers.

(a) Name the three layers.

(b) What are these layers made up of?

(c) Which layer is comparatively thin in the veins?

OR

Draw a diagram to show the internal structure of human heart. Label any two heart chambers, any two heart valves and Chordae tendinae in it. (03)

Q.23 (a) Terrestrial animals are generally either ureotelic or urecotelic, not ammonotelic. Why? (03)

(b) How does the filtrate become hypertonic in the descending limb of Henele's loop?

Q.24 (a) Mention the components of the diffusion membrane of human respiratory system? What is its total thickness? (03)

(b) Cigarette smoking causes emphysema. Give reasons.

SECTION : D

Q.25 Define oxygen dissociation curve. Can you suggest any reason for its sigmoidal pattern? Name the factors that affect the binding of oxygen to haemoglobin to form oxyhaemoglobin and the factors that favour the dissociation of oxyhaemoglobin in the tissues. (05)

OR

What are the major transport mechanisms for Carbon dioxide? Explain. (05)

Q.26 Describe the main steps in the digestion of proteins as the food passes through the alimentary canal of human beings. (05)

OR

How are the butter in your food get digested and absorbed in the body?

Q.27 What is alternation of generations? Describe how Bryophytes exhibit this phenomenon in their life cycle. Also draw the schematic diagram. (05)

OR

(a) Differentiate between the animals of Osteichthyes and chondrichthyes. Give six points.

(b) All vertebrates are chordates, but all chordates are not vertebrates. Justify the statement.





DELHI PUBLIC SCHOOL, BHILAI (C.G.)  
FIRST TERM EXAMINATION-2019

Computer Science

Class: XI

Time: 3 Hrs.

Max. Marks: 70

**General Instructions:**

- All questions are compulsory.
- All questions to be answered sequentially.
- Question paper contains 7 questions.

- Define memory. What are its memory units? 1
  - What is the difference between RAM and ROM? 2
  - Differentiate between an interpreter and a compiler. 2
  - Convert the following: 4
    - $(1101111010)_2$  to Hexa decimal (b)  $(2C9)_{16}$  to Decimal
    - $(11111011110)_2$  to Octal (d)  $(B2F)_{16}$  to Octal
  - Add the Binary Numbers and write the sum in binary form: 110101 and 101111 1
- What does a cross platform language mean? 1
  - What is an exception? 1
  - What is the need for debugger tool? 1
  - Differentiate between syntax error and semantics error. Write example for each. 3
  - What is the difference between interactive mode and script mode in python? Explain. 2
  - Which of the following are not valid strings in Python? 2
    - "Hello" (ii) 'Hello' (iii) "Hello" (iv) {Hello} (v) 'Hello' (vi) [Hello]
- Predict the output:
    - ```
x, y = 20, 60
y, x, y = x, y - 10, x + 10
print(x, y)
```

1
    - ```
X = 10
X = X + 10
X = X - 5
Print (X)
X, Y = X - 2, 22
print (X, Y)
```

1
    - ```
>>> str (print()) + "One"
>>> str (print("hello")) + "One"
>>> print (print("Hola"))
>>> print (print("hola", end = " "))
```

2
    - ```
>>> 7 * 8 / 5 // 2
>>> (((7 * 8) / 5) // 2)
>>> 7 * ((8 / 5) // 2)
>>> 7 * (8 / (5 // 2))
```

2
  - If  $a = 15.5$  and  $b = 15.5$ , then why is  $a is b$  False, while  $a == b$  True. Give reasons. 2
  - Write a program to take a 2 digit number and then print the reversed number (Eg. If input is 76 output should be 67) on screen. 2
- Predict the output:
 

```
for a in (2, 7):
    for b in (1, a):
        print (b, end = ' ')
    print ()
```
  - Write a program to print Fibonacci series (0 1 1 2 3 5 ..... ) upto N terms. (input N is given by the user) 2

(c) Find the error(s) if any and underline each correction:

2

```
if n = 0
    print ("Zero")
elif: n ==1
    print ("One")
elif
    n ==2:
    print ("two")
else n ==3
    print ("three")
```

(d) Rewrite using while loop:

2

```
for i in range (1, 16):
    if i % 3 == 0:
        print (i)
```

(e) What will the following code print?

2

```
for P in range (1, 10):
    print (P)
for P in range (1, 10):
    print (P, end = "+")
```

(f) Write a program to print every integer between 1 and n divisible by m. Also report whether the number that is divisible by m is even or odd.

2

(g) Write a program to find sum of the following series ( ! mean factorial and input the value x from the user):

3

$$x - \frac{x^2}{2!} + \frac{x^3}{3!} - \frac{x^4}{4!} + \frac{x^5}{5!} - \frac{x^6}{6!}$$

5. Predict the output:

(a) Given that S1 = "Spam"

2

```
S2 = "nil"
>>> S1 [1:3]
>>> S1 [2] + S2 [:2]
>>> S1 [:3] + S1 [3:]
>>> S2 [-1] + S2 [-1:]
```

(b) Given that:

1

```
S = "it goes as ringaringa roses"
sub = "ringa"
>>> s.find (sub, 15, 25)
```

(c) Given:

1

```
nm = "abc123"
s = ""
>>> s.isalnum()
>>> nm.isalnum()
```

(d) Given string = "Hello There"

1

```
>>> string.lower()
>>> string.upper()
```

(e) >>> "Hello World".upper.lower()

1

(f) Write a program that reads a string and check whether the given string is a palindrome string or not.

2

(g) Write a program that reads a string and then prints a string that capitalizes every other letter in the string. (For example: COMPUTER becomes cOmPuTeR)

2

6. (a) Find the output:

(i) >>> lst = [10, 12, 14, 20, 22, 24, 30, 32, 34]  
>>> lst [3:30]

1

(ii) >>> L1 = [1, 3, 5, 7, 9]  
>>> print (L1 == L1.reverse())  
>>> print (L1)

1



- (b) Differentiate between `append()` and `extend()`. Give examples using python code. 2
- (c) Predict the output: 2
- ```
Given -
my_list = ['p', 'r', 'o', 'b', 'l', 'e', 'm']
my_list [2:3] = []
print (my_list)
my_list [2:5] = []
print (my_list)
```
- (d) Predict the output: 2
- ```
Given -
List1 = [13, 18, 11, 16, 13, 18, 13]
print (list1.index(18))
print (list1.count(18))
print (list1)
```
- (e) Ask the user to enter a list containing numbers between 1 and 12. Then replace all the entries in the list that are greater than 10 with 10. 2
7. (a) How are the tuples different from lists when both are sequences? 1
- (b) Predict the output:
- (i) `tuple_a = 'a', 'b'`  
`tuple_b = ('a', 'b')`  
`print (tuple_a == tuple_b)`
- (ii) `t1 = (3, 4)`  
`t2 = ('3', '4')`  
`print (t1 + t2)`
- (c) Given T is tuple containing ("There", ["are", "a", "few", "words"], "that", "we", "will", "use") what will be the following result? 2
- (i) `T[1] [0::2]`                      (ii) `T[:1] + T[1]`

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DELHI PUBLIC SCHOOL, BHILAI (C.G.)  
FIRST TERM EXAMINATION-2019

D.O.E: 18.09.2019  
Time: 3 Hrs.

Home Science  
Class: XI

Max. Marks: 70

General Instructions:

1. All questions are compulsory.
2. Read all the questions carefully and write accordingly to the weightage.

|                                                                                          |   |
|------------------------------------------------------------------------------------------|---|
| 1. Write two points about 'writing' as the best way to communicate.                      | 1 |
| 2. What is proximity in nonverbal communication?                                         | 1 |
| 3. What is satellite communication?                                                      | 1 |
| 4. What is Intra-personal communication?                                                 | 1 |
| 5. What is the result of the flame test on: a) Cotton b) Polyester                       | 1 |
| 6. What is ginning?                                                                      | 1 |
| 7. What provides strength to the yarns?                                                  | 1 |
| 8. Give two examples of mineral fibres.                                                  | 1 |
| 9. Time is a human or a non-human resource? Explain briefly.                             | 1 |
| 10. Adolescent carry several contradictions. Give one.                                   | 1 |
| 11. Self during early childhood is in concrete terms. What does this mean?               | 1 |
| 12. Differentiate between personal and social identity.                                  | 1 |
| 13. What is self?                                                                        | 1 |
| 14. Define nutrition.                                                                    | 1 |
| 15. What is anorexia nervosa?                                                            | 1 |
| 16. What is the process of retting? Where is it used?                                    | 1 |
| 17. What is fleece?                                                                      | 1 |
| 18. Define media.                                                                        | 1 |
| 19. Name all the food groups with the nutrients they provide.                            | 2 |
| 20. Explain what is bulimia and what are its consequences?                               | 2 |
| 21. Explain the process of felting.                                                      | 2 |
| 22. Why is finishing required for the fabrics?                                           | 2 |
| 23. What is rayon? How is it made?                                                       | 2 |
| 24. Name the vocal elements of nonverbal communication.                                  | 3 |
| 25. How can you make your talk or presentation effective?                                | 3 |
| 26. What do you understand by yarn processing?                                           | 4 |
| 27. Write four properties of nylon fibres.                                               | 4 |
| 28. What are the functions of media?                                                     | 4 |
| 29. What do you understand by communications skills?                                     | 4 |
| 30. How does communication take place? Explain it with SMCRE Model.                      | 5 |
| 31. Explain the steps in the management process, using one example to clarify each step. | 5 |
| 32. What are the general characteristics of resources?                                   | 5 |
| 33. Classify communication technologies.                                                 | 5 |

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**DELHI PUBLIC SCHOOL, BHILAI (C.G.)**  
**FIRST TERM EXAMINATION-2019**

**D.O.E: 18.09.2019**  
**Time: 3 Hrs.**

**Biotechnology**  
**Class: XI**

**Max. Marks: 70**

**General Instructions:**

1. Question Paper consists of four sections A, B, C, & D.
2. Questions 1 to 15 carry one mark each.
3. Questions 16 to 22 carry two marks each.
4. Questions 23 to 29 carry three marks each.
5. Questions 30 to 33 carry five marks each.

**SECTION-A**

- |                                                                                       |   |
|---------------------------------------------------------------------------------------|---|
| 1. Which cell lay down the inorganic components of bones?                             | 1 |
| 2. What is apomixis? What are the different types of it?                              | 1 |
| 3. Eucaryotes cells are related to procaryotic cells. What suggests it?               | 1 |
| 4. What marked the canning industry?                                                  | 1 |
| 5. State the function of peroxisomes.                                                 | 1 |
| 6. What are the two instruments used by Louis Pasteur for various experiments?        | 1 |
| 7. A cell organelle is responsible for phagocytosis. Name the enzymes secreted by it. | 1 |
| 8. What happens during the prophase stage of mitosis?                                 | 1 |
| 9. Write the factors leading to the loss of biodiversity.                             | 1 |
| 10. What are secondary lymphoid organs? Name any two.                                 | 1 |
| 11. What is the equivalent of nucleus in bacteria called?                             | 1 |
| 12. Expand APC. Why is it so called?                                                  | 1 |
| 13. What is schizogony? In which organism it is seen.                                 | 1 |
| 14. What is sustainable development? Expand WCED.                                     | 1 |
| 15. Name any four fermenting bacteria.                                                | 1 |

**SECTION-B**

16. Draw a well labelled diagram of an immunoglobulin. 2

**OR**

Draw a well labelled diagram showing the contraction of muscles.

- |                                                                                                           |   |
|-----------------------------------------------------------------------------------------------------------|---|
| 17. Compare vascular tissues based on the basis of structure and function.                                | 2 |
| 18. What is cell culture? Explain different types of it.                                                  | 2 |
| 19. Cytoskeleton is of great importance. Why? Explain the types of it.                                    | 2 |
| 20. What is bioremediation? State the importance of modern biotechnology.                                 | 2 |
| 21. Cell communicate with each other. Explain with the help of diagram.                                   | 2 |
| 22. Classify on the basis of shape the tissues that covers the internal and external surface of the body. | 2 |

**SECTION-C**

- |                                                                                                                         |   |
|-------------------------------------------------------------------------------------------------------------------------|---|
| 23. Some cells have the capacity of self renewal and differentiation. What are these cells called? Explain its types.   | 3 |
| 24. State the application of Biotechnology in the field of health industry, chemical industry and agriculture industry. | 3 |
| 25. How do cells regulate the various events taking place during cell division?                                         | 3 |
| 26. Name the organelle that is found only in plants. Explain the different types and function of it.                    | 3 |
| 27. What is genetic recombination? Explain the process in bacteria.                                                     | 3 |
| 28. Recombinant DNA technology is considered as the corner stone of biotechnology Explain.                              | 3 |
| 29. Explain the function of golgi apparatus.                                                                            | 3 |

**OR**

Plants begin their life as a fertilized egg. What are the major events taking place?

**SECTION-D**

30. How do human beings protect themselves from various types of infections? 5

**OR**

Explain what technique can help infertile couple to bear children. Explain the process.

- |                                                                                                                                                 |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 31. Write short note on a) Biosensors b) Cloning c) Nanotechnology                                                                              | 5 |
| 32. An organelle is responsible for oxidative phosphorylation and ETC. Name it and explain the structure and function with the help of diagram. | 5 |

**OR**

Which is the largest cell organelle. Explain the structure and function of it with the help of diagram.

33. How do plants protect itself from various pathogens. Explain. 5

**OR**

With the help of diagram explain Prophase I of meiosis

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DELHI PUBLIC SCHOOL, BHILAI (C.G.)  
FIRST TERM EXAMINATION-2019  
Informatics Practices

Time: 3 Hrs.

Class: XI

Max. Marks: 70

**General Instructions:**

- All questions are compulsory.
- Answer the questions after carefully reading the text.

- 
- (a) Differentiate between RAM and ROM. (any two points) (2)

(b) Write the uses of the following utility programs: (2)  
Disk Defragmentor, Compression Utility

(c) Explain the use of the following Python libraries: (2)  
NumPy, Panda

(d) Write any four key features of Second Generation Computers. (2)

(e) Write any two problems of computer monitor and solution to the problems. (2)
  - (a) Convert  $(110111.011)_2$  to Decimal number. (1)

(b) Name any two Indian languages available in UNICODE. (1)

(c) What is the utility of ISCII encoding schemes? (1)

(d) Convert decimal number 3251 into binary digits. (2)
  - (a) Write any four pulses of python. (2)

(b) Write the use of Jupiter notebook. (1)

(c) Who developed Python programming language? (1)

(d) Python is free and open source language. What do you understand by this feature? (1)
  - (a) In python, if value of Z is  $(3+5j) + (4+9j)$  then how to display real part and imaginary part of its sum? (2)

(b) Assume S = "DATA HANDLING" then write the output of the following commands: (2)  
`>>> S [-5]`  
`>>> S [5]`

(c) How list and tuple are different? (2)

(d) Write the use of id() function with suitable function. (2)

(e) Predict the output of the given python command: `>>> type(100)` (1)

(f) Differentiate between '/' and '/' operator with examples. (2)

(g) What is identity operator? Explain. (2)

(h) How function ceil() is different from floor()? Explain with examples. (2)
  - (a) Write the use of the following Escape Sequence in Python: (2)  
`\a,` `\n`

(b) How to write block comment in python. (2)

(c) Predict the output of the following code: (2)  
`x, y = 90, 101`  
`x, y, z = x+5, y+7, x+85`  
`print (x, y)`
-



- (d) What will be returned by Python as result of the following statement? (3)
- ```
>>> type (int(0))
>>> type (3/2)
>>> type ('0')
```
- (e) How to store any Octal number in a variable? (1)
- (f) Write a python program to read a number  $n$  and print  $n^2$ ,  $n^3$  and  $n^4$ . (3)
- (g) Write the use of User Defined function in python. (2)
6. (a) Develop a flowchart to find the lowest number out of three integers A, B and C entered by the user. (2)
- (b) Explain the use of format() function with example. (2)
- (c) Rewrite the following code using while loop: (2)
- ```
for i in range (501):
    print (i, ',');
print ()
```
- (d) Write a short program to input a digit (Single digit) and print it in words. (2)
- (e) Explain the break and continue with suitable examples used with looping. (2)
7. (a) Write a Python program to input the cost of 1 kg. item and print the given output (for example, cost of 1 kg. item is 50) (2)

| Grams | Rates |
|-------|-------|
| 100   | 5     |
| 200   | 10    |
| 300   | .     |
| .     | .     |
| .     | .     |
| .     | .     |
| 1000  | 50    |

- (b) Write a program to input any ten integers and print the largest number entered by user. (2)
- (c) Write a program to input three sides of a triangle and check whether the given sides form a triangle or not and display appropriate message. (2)
- (d) Write Python code to display given output using while loop only: (2)
- ```
5: *****
4: *****
3: *****
2: *****
1: *****
```
- (e) Write python code to print the given output using for loop: (2)

|   |   |   |   |   |   |   |   |    |   |    |    |    |    |
|---|---|---|---|---|---|---|---|----|---|----|----|----|----|
| 2 | 1 | 4 | 3 | 6 | 5 | 8 | 7 | 10 | 9 | 12 | 11 | 14 | 13 |
|---|---|---|---|---|---|---|---|----|---|----|----|----|----|

\* \* \* \* \*



# DELHI PUBLIC SCHOOL, BHILAI

Date : 18.09.2019

MID-TERM EXAMINATION, 2019

Time : 3 Hrs.

Class - XI

SUBJECT – MATHEMATICS

M.M. 80

### GENERAL INSTRUCTIONS

- > All questions are compulsory.
- > The question paper consists of 36 questions divided into four sections A, B, C and D.  
Section A comprises 20 questions of 1 mark each,  
Section B comprises 6 questions of 2 marks each,  
Section C comprises 6 questions of 4 marks each and  
Section D comprises 4 questions of 6 marks each.
- > All questions in Section A are to be answered in one word, one sentence or as per the exact requirement of the question.
- > There is no overall choice. However internal choice has been provided in 3 questions of 2 marks each, 3 questions of 4 marks each and 4 questions of 6 marks each. You have to attempt only one of the alternatives in all such questions.

### SECTION A

- 1 If  $(x + y, x - y) = (8, 2)$  then value of  $x$  and  $y$  is  
(i) (4, 2) (ii) (5, 2) (iii) (5, 3) (iv) (4, 3)
- 2 In a class of 60 students, 25 students play cricket and 20 students play tennis and 10 students play both the games. Then the number of students who play neither is  
(i) 15 (ii) 25 (iii) 35 (iv) 45
- 3 The value of  $n(A \cup B)$ , when  $n(A) = 10$  and  $n(B) = 12$  with 6 identical elements is  
(i) 12 (ii) 12 (iii) 16 (iv) 6
- 4 Let  $f$  be the subset of  $Z \times Z$  defined by  $f = \{(ab, a + b) : a, b \in Z\}$ .  
(i)  $f$  is a relation (ii)  $f$  is a mapping (iii)  $f$  is one - one (iv) none of these
- 5 The domain of the function  $f(x) = \sqrt{x - 3} + \sqrt{3 - x}$  is \_\_\_\_\_.
- 6 If  $X = \{8^n - 7n - 1 : n \in N \text{ and } 1 \leq n \leq 3\}$  and  $Y = \{49n - 49 : n \in N \text{ and } 1 \leq n \leq 3\}$ , then  
(i)  $X \subset Y$  (ii)  $Y \subset X$  (iii)  $X = Y$  (iv)  $X \cap Y = \phi$
- 7 Check sign of the expression  $\cos 100^\circ - \sin 100^\circ$ .  
(i)  $> 0$  (ii)  $< 0$  (iii) 0 (iv) none of these
- 8 If  $P = \{1, 2, 3\}$  and  $B = \{x, y\}$ . Find the no. of relations from  $P$  to  $Q$  which are not functions.  
(i) 64 (ii) 8 (iii) 56 (iv) 6
- 9 Solve  $2x - 3 < 5$  and represent on number line.
- 10 If  $\tan \theta = \frac{1}{2}$  and  $\tan \phi = \frac{1}{3}$ , then what is the value of  $(\theta + \phi)$ ?  
(i)  $\frac{\pi}{4}$  (ii)  $\frac{\pi}{8}$  (iii)  $\frac{\pi}{6}$  (iv)  $\frac{3\pi}{4}$
- 11 Write a complex number  $z$ , whose modulus is  $\sqrt{2}$  and argument is  $-\frac{\pi}{4}$   
 $z_1 = \sqrt{3} + i\sqrt{3}$  and  $z_2 = \sqrt{3} + i$ , then find the quadrant in which  $\begin{pmatrix} z_1 \\ z_2 \end{pmatrix}$  lies.
- 12 If
- 13 The solution of the equation  $\cos^2 \theta + \sin \theta + 1 = 0$  lies in the interval  
(i)  $(-\frac{\pi}{4}, \frac{\pi}{4})$  (ii)  $(\frac{\pi}{4}, \frac{3\pi}{4})$  (iii)  $(\frac{3\pi}{4}, \frac{5\pi}{4})$  (iv)  $(\frac{5\pi}{4}, \frac{7\pi}{4})$
- 14 If  $z = 2 + \sqrt{3}i$ , then find the value of  $z\bar{z}$ .  
(i) -7 (ii) 7 (iii) 0 (iv) 13
- 15 The value of  $\cos (-1080^\circ)$  is  
(i) 1 (ii) -1 (iii) 0 (iv)  $\frac{1}{2}$
- 16 If  $2\sin^2 x = 1$ . Write general solution.
- 17 Which T- function increases from  $-\infty$  to -1 in 2<sup>nd</sup> quadrant?  
(i) cosec  $x$  (ii) sec  $x$  (iii) sin  $x$  (iv) cos  $x$
- 18 The value of  $\cos(\pi + x) \sin(2\pi + x) + \cos(2\pi - x) \sin(\pi - x)$  is  
(i)  $\frac{1}{2}$  (ii) -1/2 (iii) 0 (iv)  $\frac{1}{4}$

Contd...2



- 19 State principle of mathematical induction.  
 20 If  $10^n + 3 \cdot 4^{n+2} + K$  is divisible by 9 for all  $n \in \mathbb{N}$ , then the least positive integral value of K is  
 (i) 5                      (ii) 3                      (iii) 7                      (iv) 1

**SECTION B**

- 21 If X and Y are subsets of the universal set U then prove that  $X \cap Y \subset Y$ .

**OR**

If  $A = \{1, 2, 3\}$ , then write proper subsets of A. Also write the total number of elements in power set of A.

- 22 If  $A = \{1, 2, 3\}$ ,  $B = \{3, 4\}$  and  $C = \{4, 5, 6\}$  then verify  $A \times (B \cap C) = (A \times B) \cap (A \times C)$ .  
 23 A wheel is making 360 revolutions in one minute. How many degrees does it make in one second?

**OR** What is the angle between minute hand and hour hand when time is 7 : 20?

- 24 Prove that  $\cot x \cot 2x - \cot 2x \cot 3x - \cot 3x \cot x = 1$ .  
 25 Solve  $x^2 + x + 1 = 0$ . Also find that the sum of the roots .  
 26 Find the modulus and argument of the complex number  $\frac{1+i}{1-i}$ .

**OR**

Write principal value for argument in different quadrants and write argument for -1 and -i

**SECTION C**

- 27 In a survey of 60 people it was found that 25 people read newspaper TOI, 26 read newspaper HT, 26 read newspaper THE TELEGRAPH, 9 read both TOI and THE TELEGRAPH, 11 read both TOI and HT, 8 read both HT and THE TELEGRAPH, 3 read all the three newspaper. Find  
 (i) the number of people who read exactly two of the newspapers  
 (ii) number of people who read none of the newspaper.  
 28 Find the domain of the function f(x) given by

$$i) f(x) = \frac{1}{\sqrt{x^2 - x - 6}} \quad ii) f(x) = \frac{1}{\sqrt{x - |x|}}$$

**OR**

Is  $g = \{(1, 1), (2, 3), (3, 5), (4, 7)\}$  a function? If this is described by the relation  $g(x) = \alpha x + \beta$ , then what values should be assigned to  $\alpha$  and  $\beta$ ?

- 29 Solve  $2 \tan^2 x + \sec^2 x = 2$  for  $[0, 4\pi]$ .  
 30 Prove that  $2 \cos \frac{\pi}{13} \cos \frac{9\pi}{13} + \cos \frac{3\pi}{13} + \cos \frac{5\pi}{13} = 0$

**OR**

Find the value of  $\tan \frac{\pi}{8}$ . Also calculate the value of  $\cot \frac{\pi}{8}$  using  $\tan \frac{\pi}{8}$ .

- 31 Express the following in the polar form  $\frac{-16}{1+i\sqrt{3}}$ .  
 32 Find the value of  $\sqrt{i} + \sqrt{-i}$ .

**OR**

Find the real numbers x and y if  $(x - iy)(3 + 5i)$  is the conjugate of  $-6 - 24i$ .

**SECTION D**

- 33 Let R be a relation on A, where A is the set of all people living in Risali sector, Bhilai defined by  $R = \{(x, y) : x, y \in A \text{ i.e., } x \text{ and } y \text{ living in Risali Sector}\}$ . Are the following true :  
 (i)  $(x, x) \in R$  for all  $x \in A$ .  
 (ii)  $(x, y) \in R$  implies  $(y, x) \in R$  for all  $x, y \in A$   
 (iii)  $(x, y) \in R$  and  $(y, z) \in R$  implies that  $(x, z) \in R$  for all  $x, y, z \in A$

**OR**

Redefine the function  $f(x) = |x - 3| + |x + 3|$ , sketch the graph and determine domain and range.

- 34 Prove that  $\cos^2 x + \cos^2 \left(x + \frac{\pi}{3}\right) + \cos^2 \left(x - \frac{\pi}{3}\right) = \frac{3}{2}$

**OR**

Find the value of  $\sin 18^\circ$ . Using  $\sin 18^\circ$  find the value of  $\sin^2 24^\circ - \sin^2 6^\circ$ .

- 35 Using Induction, Prove that  $2 \cdot 7^n + 3 \cdot 5^n - 5$  is divisible by 24, for all  $n \in \mathbb{N}$ .

**OR**

Using Induction, Prove that  $1^2 + 2^2 + 3^2 + \dots + n^2 > \frac{n^3}{3}$  for all  $n \in \mathbb{N}$

- 36 A solution of 9 % acid is to be diluted by adding 3 % acid solution to it. The resulting mixture is to be more than 5 % and less than 7 % acid. If there is 460 liters of the 9 % solution, how many liters of 3 % solution will have to be added?

**OR**

Graphically show that the following system of linear in equations has no solution  
 $x + 2y \leq 3$ ,  $3x + 4y \geq 12$ ,  $x \geq 0$ ,  $y \geq 1$ .





# DELHI PUBLIC SCHOOL, BHILAI

Date : 03.09.2019

FIRST TERM EXAMINATION, 2019

Time : 50 Min.

Class - XI

SUBJECT – GENERAL KNOWLEDGE

M.M. 50

Name : \_\_\_\_\_ Roll No. : \_\_\_\_\_ Class & Section \_\_\_\_\_

**GENERAL INSTRUCTIONS :**

Invigilator's Signature \_\_\_\_\_

- All the questions are compulsory.
- Each question carries 1 mark.
- Write the correct answer in the box given against the question.

01. Fungi are :  
(a) Plants (b) Animals (c) Eukaryote (d) Prokaryote
02. Which of the following is an air borne disease?  
(a) Measles (b) Typhoid (c) Pink Eye (d) Malaria
03. A yellow dust appears on the fingers, wherever we touch the middle of a flower, which contain the secret of plant life. What is this dust called?  
(a) Pollen (b) Sperm (c) Spore (d) Sporocyst
04. Which organ of the body produces the fluid known as bile?  
(a) Liver (b) Pancreas (c) Gall bladder (d) Kidney
05. RDX is chemical compound which is used as :  
(a) a composition (b) a reactor (c) an explosive (d) a nuclear weapon
06. Which is not used as an alkali?  
(a) Sodium hydroxide (b) Potassium hydroxide  
(c) Carbon hydroxide (d) Nitrogen hydroxide
07. Which acid is present in lemon?  
(a) malic acid (b) citric acid (c) lactic acid (d) tartaric acid
08. The force between charged particles is called as :  
(a) Nuclear force (b) Gravitation force (c) Centrifugal force (d) Electromagnetic force
09. The Theory of Relativity was given by :  
(a) Isaac Newton (b) Archimedes (c) Albert Einstein (d) Galileo Galilee
10. Which of the following is the unit of light year?  
(a) Time (b) Distance (c) Volume of Gas (d) Intensity of Light
11. Environmental Pollution has taken place on a large scale in  
(a) Rural areas only (b) Industrial and Urban areas (c) Urban areas only (d) Industrial area only
12. Who was known as the frontier Gandhi?  
(a) Jawaharlal Nehru (b) Ali Brothers (c) Khan Abdul Ghaffar Khan (d) Mohammad Ali Jinnah
13. The right to property is a  
(a) Fundamental Right (b) Citizen's Right (c) Legal Right (d) Moral Right
14. Energy travels from Sun to Earth through :  
(a) conduction (b) convection (c) radiation (d) modulation
15. The working principle of a washing machine is  
(a) reverse osmosis (b) diffusion (c) centrifugation (d) dialysis
16. Which major latitude passes at the south of the southernmost point of Peninsular India?  
(a) Equator (b) Tropic of Capricorn (c) Tropic of Cancer (d) Prime Meridian
17. Guwahati is situated on the banks of  
(a) Brahmaputra (b) Ganga (c) Yamuna (d) Godavari
18. Which of the following countries share the longest border length with India?  
(a) Bangladesh (b) Pakistan (c) China (d) Nepal
19. The clouds float in the air because of their low :  
(a) temperature (b) velocity (c) pressure (d) density
20. Azlan Shah Cup is related to which sport?  
(a) Badminton (b) Hockey (c) Cricket (d) Table Tennis
21. Aparna Popat is a famous Indian  
(a) Hockey Player (b) Tennis Player (c) Cricket Player (d) Badminton Player

Contd...2



22. The term 'Slam' is associated with  
(a) Cricket (b) Tennis (c) Boxing (d) Football
23. How many players are there on each side in a baseball match?  
(a) 5 (b) 7 (c) 9 (d) 11
24. World Cup of hockey is held after a gap of :  
(a) 3 years (b) 4 years (c) 5 years (d) 2 years
25. The Swaraj Party was formed by  
(a) J.L.Nehru (b) B.G. Tilak (c) Gandhiji (d) C.R. Das
26. Television was invented by  
(a) Sholes (b) J.L. Baird (c) Shockley (d) John Napier
27. Which of the following is the contribution of Scientist Aneriko Fermi?  
(a) Nuclear Furnace or Bath (b) Law of Motion (c) Discovery of Calculus (d) Parasite
28. Author of 'Around the World in Eighty Day's is  
(a) William Shakespeare (b) Richard (c) U.S. Naipaul (d) Jules Verne
29. Which is not a work of Rabindranath Tagore?  
(a) Chitra (b) Kapala Kundul (c) The Court Dancer (d) Chithrangada
30. David Copperfield is the name of a famous  
(a) Actor (b) Novel (c) Poem (d) Writer
31. Which day is observed as the World Environment Day?  
(a) 28<sup>th</sup> February (b) 4<sup>th</sup> March (c) 5<sup>th</sup> June (d) 16<sup>th</sup> September
32. Which day is celebrated on January 1 every year  
(a) International Literary Day (b) World Peace Day (c) World Egg Day (d) World Braille Day
33. Who was the first Governor of Chhattisgarh  
(a) Shekhar Dutt (b) Balram Das Tandon (c) D.N. Sahay (d) Anusuiya Uikey
34. The famous Chitrakot waterfall in Chhattisgarh State is situated in?  
(a) Baghel Khand Plateau (b) Chhattisgarh Basin  
(c) Jashpoor-Samri Region (d) Dandkaranya Region
35. Which is the highest point in Chhattisgarh?  
(a) Mount Abu (b) Dhavalgiri (c) Arna Konda (d) Aakash Nagar
36. Which city is famous for the 'Kosa' weaving industry  
(a) Champa (b) Pamgarh (c) Dhabara (d) Nawagarh
37. Which is the Chhattisgarh State flower  
(a) Cannon ball (b) Strobilanthes Kunthiana (c) Alfalfa (d) Rhynehostylis gigantean
38. Which of the following awards is not associated with the field of sports  
(a) Arjuna Award (b) Dronacharya Award (c) Dhyan Chand Award (d) Norman Borlay Award
39. Who is the first Asian Winner of Nobel Prize  
(a) C.V. Raman (b) Amartya Sen (c) Rabindranath Tagore (d) Mother Teresa
40. Who was the first actor to get Oscar Award  
(a) Montgomery (b) Fairbanks (c) Janet Gayner (d) Charlie Chaplin
41. How many satellites did ISRO launch by a single rocket on 15 February, 2017  
(a) 74 (b) 84 (c) 94 (d) 104
42. Article 370 was scrapped by the Central Government on  
(a) 5 August, 2019 (b) 6<sup>th</sup> August, 2019 (c) 7<sup>th</sup> August, 2019 (d) 8<sup>th</sup> August, 2019
43. Gaurela-Pendra-Marwahi is the district of Chhattisgarh  
(a) 26<sup>th</sup> (b) 27<sup>th</sup> (c) 28<sup>th</sup> (d) 29<sup>th</sup>
44. Who is known as the Missile Woman in India  
(a) Tessy Thomas (b) Kalpana Chawla (c) Sonia Gandhi (d) Indira Nooyi
45. Jio Fiber Services launch date is  
(a) 4 September, 2019 (b) 5<sup>th</sup> September, 2019 (c) 6<sup>th</sup> September, 2019 (d) 7<sup>th</sup> September, 2019
46. Who bagged the Best Actor Award in the 66 National Film Festival  
(a) Shahrukh Khan (b) Amitabh Bachchan (c) Akshay Kumar (d) Ayushmaan Khurana
47. The Ministry of Human Resource Development decided to celebrate National Education Day from  
(a) 2007 (b) 2008 (c) 2009 (d) 2010
48. The first woman to head a public sector bank  
(a) Arundhati Bhattacharya (b) Shikha Sharma (c) Chanda Kochar (d) Usha Ananthasubramanyam
49. Who sworn in as the first Chief Minister of Telangana State  
(a) Jayalalitha (b) Chandrababu Naidu (c) K. Chandrashekar Rao (d) K.T. Rama Rao
50. Macmohan Line demarcates the boundary between which countries  
(a) USA and Canada (b) Nepal and China (c) India and China (d) India and Myanmar