

## BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN

2<sup>ND</sup> PRE-BOARD EXAMINATION: (2025-2026)

## ACCOUNTANCY

## CLASS: XII

Time: 3 Hours

Maximum Marks: 80

NAME: \_\_\_\_\_ SEC.: \_\_\_\_\_ ROLL NO.: \_\_\_\_\_

## General Instructions:

1. This question paper contains 34 questions. All questions are compulsory.
2. This question paper is divided into two parts, Part A and B.
3. **Part- A is compulsory for all candidates.**
4. **Part - B** has two options i.e. **(i) Analysis of Financial Statements and (ii) Computerized Accounting**. Students must attempt only one of the given options.
5. Question 1 to 16 and 27 to 30 carries **1** mark each.
6. Questions 17 to 20, 31 and 32 carries **3** marks each.
7. Questions from 21, 22 and 33 carries **4** marks each.
8. Questions from 23 to 26 and 34 carries **6** marks each.
9. There is no overall choice. However, an internal choice has been provided in 7 questions for **one mark**, 2 questions for **three marks**, one question of **four marks** and 2 questions for **six marks**.

## PART A

## Accounting For Partnership Firms and Companies

1. If 10,000 shares of Rs.10 each were forfeited for non-payment of final call money of ₹3 per share and only 7,000 of these shares were re-issued @ ₹11 per share as fully paid up, then what is the minimum amount that company must collect at the time of re-issue of the remaining 3,000 shares?  
A. 21,000                      B. 9,000                      C. 16,000                      D. Rs. 30,000

## OR

On 1st April 2023, Starke Ltd. had a balance of ₹8,00,000 in Securities Premium account. During the year company issued 20,000 Equity shares of ₹10 each as bonus shares and used the balance amount to write off Loss on issue of Debenture on account of issue of 2,00,000, 9% Debentures of ₹100 each at a discount of 10% redeemable @ 5% Premium. The amount to be charged to Statement of P&L for the year for Loss on issue of Debentures would be:

- A. ₹30,00,000.                      B. ₹22,00,000.                      C. ₹24,00,000.                      D. ₹20,00,000.

2. **Assertion (A):** Commission provided to partner is shown in Profit and Loss A/c. 1

**Reason (R):** Commission provided to partner is charge against profits and is to be provided at fixed rate.

- A. (A) is correct but (R) is wrong  
B. Both (A) and (R) are correct, but (R) is not the correct explanation of (A)  
C. Both (A) and (R) are incorrect.  
D. Both (A) and (R) are correct, and (R) is the correct explanation of (A)

3. On 1st July, 2024, A, B and C entered into partnership sharing Profits & Losses in the ratio 5:3:2. C was guaranteed that his share of profits will not be less than ₹ 60,000 p.a. Deficiency (if any) will be borne by A and B equally. For the year ended March 31, 2025, firm incurred a loss of ₹1,25,000. Deficiency borne by A and B will be: 1

- A. A ₹ 30,000 and B ₹ 30,000                      B. A ₹ 43,750 and B ₹ 26,250  
C. A ₹ 42,500 and B ₹ 42,500                      D. A ₹ 35,000 and B ₹ 35,000

4. P Ltd. took over running business of V Ltd. comprising of Assets of ₹ 45,00,000 and Liabilities of ₹ 7,50,000 and in consideration issued them 30,000, 9% debentures of ₹ 100 each at 5% discount and a cheque of ₹ 10,00,000. Determine the amount of Goodwill or Capital Reserve. 1

- A. Goodwill ₹ 9,00,000                      B. Capital Reserve ₹ 9,00,000  
C. Goodwill ₹ 1,00,000                      D. Capital Reserve ₹ 1,00,000

## OR

D Ltd. purchased Equipment and paid ₹ 2,20,000 by cheque and issued 16,000 equity shares of ₹ 10 each at 25% premium. The purchase consideration will be:

- A. ₹ 3,40,000                      B. ₹ 4,20,000                      C. ₹ 3,80,000                      D. ₹ 2,00,000

5. Renu, Trilok and Mansi were partners in a firm sharing profits and losses in the ratio of 9: 6: 5. Hina was admitted as a partner for 1/10<sup>th</sup> share in the profits which she acquired equally from Renu and Trilok. The new profit-sharing ratio after Hina's admission will be: 1

- A. 5: 5: 2: 8                      B. 5: 5: 8: 2                      C. 8: 2: 5: 5                      D. 8: 5: 5: 2

## OR

Ashu and Ria were partners in a firm sharing profits and losses in the ratio of 4: 3. They admitted Nitu for a  $\frac{3}{7}$ <sup>th</sup> share in the profits of the firm, which she took  $\frac{2}{7}$ <sup>th</sup> from Ashu and  $\frac{1}{7}$ <sup>th</sup> from Ria. The new profit-sharing ratio between Ashu, Ria and Nitu will be:

- A.** 4: 3: 3                      **B.** 2: 1: 3                      **C.** 2: 2: 3                      **D.** 4: 3: 2

6. Bala and Lala were partners in a firm with Capitals of ₹24,00,000 and ₹16,00,000. They admitted Mala as a new partner for  $\frac{1}{3}$  share for which Mala brings ₹20,00,000 as capital. There was Investment and Investment Fluctuation Reserve appearing in the books of ₹2,50,000 and ₹50,000 respectively. Bala took over 40% of the Investments at ₹ 80,000 and remaining Investments were valued at ₹1,10,000. By what amount Revaluation account will be affected for the above information? 1
- A.** Debited ₹ 60,000                      **B.** Credited with ₹ 60,000                      **C.** Debited ₹ 10,000                      **D.** Credited ₹ 10,000
7. On 1st August, 2024 Tom, Jerry and Tyke entered into partnership with capitals of ₹5,00,000 each. Interest on Drawings was to be charged @ 6% p.a. For the year ended March 31, 2025, Tyke withdrew ₹ 80,000. What amount of Interest on drawings will be charged from Tyke? 1
- A.** ₹ 4,800                      **B.** ₹ 1,600                      **C.** ₹ 3,200                      **D.** ₹ 2,400

**OR**

Rama, a partner took over Machinery of ₹ 50,000 in full settlement of her Loan of ₹ 60,000. Machinery was already transferred to Realisation Account. How it will effect the Realisation Account?

- A.** Realisation Account will be credited by ₹ 60,000  
**B.** Realisation Account will be credited by ₹ 10,000  
**C.** Realisation Account will be credited by ₹ 50,000  
**D.** No effect on Realisation Account
8. Which one from the below is not a right of a partner? 1
- A.** Right to inspect the books of accounts  
**B.** Right to take part in the management of the firm  
**C.** Right to share the profit/losses with other partners in agreed ratio  
**D.** Right to receive salary at the end of every year
9. S and K were partners sharing profits and losses in the ratio 5:3. They admitted spinner as a new partner. String sacrificed  $\frac{1}{4}$  from his share and Kite sacrificed  $\frac{1}{6}$  of his share. What will be the new ratio? 1
- A.** 6:5:5                      **B.** 9:5:10                      **C.** 15:10:7                      **D.** 35:21:40
10. Shares issued as sweat equity can be 1
- (i) Issued at par.      (ii) Issued at discount.                      (iii) Issued at a premium.
- Which of the following is correct?
- A.** Only (i) is correct.                      **B.** Both (i) and (iii) are correct.                      **C.** All are correct.                      **D.** Only (ii) is correct.
11. Rohit, Virat and Shikhar were partners sharing profits and losses in the ratio 3:1:1. Their Capital balance as on March 31, 2024 was ₹ 3,00,000; ₹ 2,70,000 and ₹ 2,50,000 respectively. On the same date, they admitted Hardik as a new partner for 20% share. Hardik was to bring ₹ 80,000 for his share of goodwill and  $\frac{1}{5}$  of the combined capital of all the partners of new firm. What will be the amount of capital brought in by Hardik on his admission as a new partner? 1
- A.** ₹ 2,25,000                      **B.** ₹ 1,80,000                      **C.** ₹ 2,60,000                      **D.** ₹ 3,05,000

**OR**

A, B and C were partners sharing profits and losses equally. B died on 31 August, 2023 and total amount transferred to B's executors was ₹ 13,20,000. B's executors were being paid ₹ 1,20,000 immediately and balance was to be paid in four equal semi-annual instalments together with interest @ 10% p.a. Total amount of interest to be credited to B's executors Account for the year ended March 31, 2024 will be?

- A.** ₹ 70,000                      **B.** ₹ 67,500                      **C.** ₹ 60,000                      **D.** ₹ 77,000

12. Match the following and choose the correct option: 1

| Column A                   | Column B                                         |
|----------------------------|--------------------------------------------------|
| i) Partner's current A/c   | a) Dissolution of Partnership Firm               |
| ii) Goodwill A/c           | b) Admission of a Partner                        |
| iii) Partner's Drawing A/c | c) Fixed Capitals of Partners                    |
| iv) Realisation A/c        | d) Goods taken by a partner for self-consumption |

- A.** (i) (a); (ii) (b); (iii) (c); (iv) (d)                      **B.** (i) (d); (ii) (a); (iii) (b); (iv) (c)  
**C.** (i) (c); (ii) (b); (iii) (d); (iv) (a)                      **D.** (i) (b); (ii) (a); (iii) (c); (iv) (d)

13. **Assertion (A):** Partner's current accounts are opened when their capitals are fluctuating. 1  
**Reason (R):** In case of Fixed capitals all the transactions other than Capital are done through Current account of the partner.  
**A.** Both (A) and (R) are true and (R) is the correct explanation of (A).  
**B.** Both (A) and (R) are true but (R) is not the correct explanation of (A).  
**C.** (A) is true but (R) is false  
**D.** (A) is false but (R) is true
14. Rahul, Samarth and Ayaan were partners sharing profits and losses in the ratio of 5:4:3. Ayaan's fixed Capital balance as on March 31, 2024 was ₹ 2,70,000. Which of the following items would have affected this Capital balance? 1  
**A.** Profit/Loss for the year  
**B.** Additional Capital introduced  
**C.** Reduction in Capital due to Capital Adjustment  
**D.** Both B and C
15. Sarvesh, Sriniketan and Srinivas are partners in the ratio of 5:3: 2. If Sriniketan's share of profit at the end of the year amounted to ₹ 1,50,000, what will be Sarvesh's share of profits? 1  
**A.** ₹5,00,000. **B.** ₹1,50,000. **C.** ₹3,00,000. **D.** ₹2,50,000.
16. In case of dissolution of a firm, which item on the liabilities side is to be paid last? 1  
**A.** Creditors. **B.** Bank loan. **C.** Partners loan **D.** Partners capital

**OR**

- D, Y and V were partners sharing profits and losses in the ratio 3:2:1. Their books showed Workmen Compensation Reserve of ₹ 1,00,000. Workmen Claim amounted to ₹ 60,000. How it will affect the books of Accounts at the time of dissolution of firm?  
**A.** Only ₹ 40,000 will be distributed amongst partner's capital account  
**B.** ₹ 1,00,000 will be credited to Realisation Account and ₹ 60,000 will be paid off.  
**C.** ₹ 60,000 will be credited to Realisation Account and will be even paid off. Balance ₹ 40,000 will be distributed amongst partners.  
**D.** Only ₹ 60,000 will be credited to Realisation Account and will be even paid off.
17. L and M were partners in a firm sharing profits in the ratio of 2:3. On 28th February 2024, the firm was dissolved. After transferring assets (other than cash) and outsiders' liabilities to Realisation Account, you are given the following: 3  
 (i) A creditor for ₹1,40,000 accepted building valued at ₹1,80,000 and paid to the firm ₹40,000  
 (ii) A second creditor for ₹30,000 accepted machinery valued at ₹28,000 in full settlement of his claim.  
 (iii) A third creditor amounting to ₹70,000 accepted ₹30,000 in cash and investments of the book value of ₹45,000 in full settlement of his claim.  
 Pass necessary Journal entries for the above transactions in the books of the firm assuming that all payments were made by cheque  
 (iv) Loss on dissolution was ₹ 4000
18. Sonu, Monu and Tanu were partners in a firm sharing profits and losses in the ratio of 4: 3: 1. The firm closes its books on 31st March every year. As per the agreement, on death of any partner, the share of Goodwill of deceased partner will be calculated at 50% on the basis of net profits of last four completed years before death. Sonu died on 30th June, 2019. The profits for the last four years were: 3

| Year       | 2015-16 | 2016-17  | 2017-18 | 2018-19 |
|------------|---------|----------|---------|---------|
| Profit (₹) | 97,000  | 1,05,000 | 30,000  | 84,000  |

His share of profit in the year of his death was to be calculated on the basis of sales. Sales for the year ended 31st March, 2019 was ₹21,00,000. From 1st April, 2019 to 30th June, 2019 the firm's sales was ₹2,00,000. Pass necessary journal entries relating to the amount of Goodwill and Profit to be transferred to Sonu's Capital Account.

**OR**

- Consider Mohan and Harpreet to be partners in a firm such that they share their profits and losses in the ratio 2:1. On 1st April 2023, they decided to admit Rocky as a partner for 1/2th share. He acquires his share from Mohan and Harpreet in the ratio of 3:2. On that date, the Profit and Loss Account had a credit balance of ₹2,40,000, General Reserve amounted to ₹90,000. Workmen Compensation Reserve amounts to ₹39,300 and Deferred Revenue Expenditure was ₹18,900. Assuming that the accounts are closed, you are required to pass the necessary journal entries.
19. Richa Ltd. purchased assets from Captain & Co., for ₹ 3, 50,000. A sum of ₹ 75,000 was paid by means of a bank draft and for the balance due Richa Ltd. issued 8% Debentures of ₹10 each at a premium of 10%. Journalize the above transactions in the books of the Company. 3

**OR**

Elina Ltd. forfeited 100 shares of ₹10 each issued at 10% premium (₹8 called up) on which a shareholder did not pay ₹3 of allotment (including premium) and first call of ₹2. Out of these 60 shares were reissued to Radha as fully paid for ₹ 8 per share and 20 shares to Sanya as fully paid up @ 12 per share at different intervals of time. Prepare Share Forfeiture Account.

20. Preeti, Shivani and Pari were partners in a firm running a successful business of cosmetics. They had agreed to share profits and losses in the ratio of 3: 2: 1 respectively. After running the business successfully and without any disputes for 10 years, Shivani decided to retire due to old age and Preeti and Pari decided to share future profits and losses in the ratio of 3: 2. The accountant passed the following journal entry for Shivani share of goodwill and missed some information. Fill in the missing figures in the following Journal entry and calculate the gaining ratio.

| Date | Particulars                                                                                                                                                                     | L.F. | Dr.(₹)        | Cr.(₹) |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------|--------|
|      | Preeti's Capital A/c Dr<br>Pari's Capital A/c Dr<br>To Shivani's Capital A/c<br>(Pari's share of Goodwill debited to the amounts of continuing partners in their gaining ratio) |      | 9000<br>----- | -----  |
|      |                                                                                                                                                                                 |      |               |        |

21. Evergreen organics Ltd. was registered with an authorized capital of ₹2,00,00,000 divided in 12,50,000 Equity Shares of ₹10 each and 75,000, 10% Preference Shares of ₹100 each. The company issued 4,00,000 Equity Shares for public subscription at 10% premium payable ₹3 on application, ₹6 on allotment (including premium) and balance on call, Public applied for 5,00,000 shares. Excess applications were sent letters of regret. All the dues on allotment received except on 7,500 shares held by Dinesh. Another shareholder Kartik paid his call dues along with allotment on his holding of 12,500 shares. You are required to prepare Balance Sheet of the company as per schedule III of companies Act. 2013, showing Share Capital balance and also prepare Notes to Accounts.
22. A, B and C are partners in a firm whose books are closed on March 31st each year. A died on 30-06-2022 and according to the agreement, the share of profits of a deceased partner upto date of death is to be calculated on the basis of average profits for the last five years. The net profits loss for the last 5 years have been: ₹14,000, ₹18,000, ₹16,000, ₹ (10,000) Loss, and ₹16,000 respectively. Calculate A's share of the profit upto the date of death and pass necessary journal entry assuming that there is change in the profit-sharing ratio of remaining partners, new ratio being 3:2.
23. Jaipuria Ltd. invited applications for issuing 10,000 equity shares of ₹100 each at a premium of ₹100 per share. The amount was payable as follows:  
On application and allotment ₹100 per share (including ₹50 premium) On first and final call- the balance. The issue was fully subscribed. A shareholder holding 500 shares paid the full share money with application. Another shareholder holding 200 shares failed to pay the first and final call money. His shares were forfeited. The forfeited shares were re-issued for ₹19,000 as fully paid up. Pass necessary journal entries for the above transactions in the books of the company.

**OR**

- (A) Deep Ltd. purchased machinery from Neel Ltd. and paid to Neel Ltd. as follows:  
(i) By issuing 10,000 equity shares of ₹ 10 each at a premium of 10%.  
(ii) By issuing 200, 9% Debentures of ₹100 each at a discount of 10%.  
(iii) Balance by accepting a bill of exchange of ₹ 50,000 payable after one month.  
Pass necessary journal entries in the books of Deep Ltd. for the purchase of machinery and making payment to Neel Ltd.
- (B) Vaji Ltd. purchased the following assets of Rao Ltd.:  
Land and Building of ₹60,00,000 at ₹84,00,000; Plant and Machinery of ₹40,00,000 at ₹36,00,000. The purchase consideration was ₹1,10,00,000.  
Payment was made by accepting a Bill of Exchange in favour of Rav Ltd. of ₹20,00,000 and remaining by issue of 8% Debentures of ₹100 each at a premium of 20%. Record the necessary journal entries for the above transactions in the books of Vaji Ltd.

24. The Balance Sheet of Ankit, Barsha and Chanchal, who were sharing profit and losses in the proportion of their capitals, as at 31-12-2021 was as follows:

6

| Liabilities | Amount       | Assets                        | Amount       |
|-------------|--------------|-------------------------------|--------------|
| Creditors   | 3500         | Cash                          | 2700         |
| Capitals:   |              | Debtors                       | 3000         |
| Ankit       | 15000        | Less: Provision for bad debts | 200          |
| Barsha      | 12000        | Stock                         | 5000         |
| Chanchal    | 9000         | Machinery                     | 14000        |
|             |              | Building                      | 15000        |
|             | <b>39500</b> |                               | <b>39500</b> |

Barsha retired on that date and the following adjustments were made:

- Building be appreciated by 20%, stock be depreciated by 10%, provisions for doubtful debts be maintained at 5% and a provision for legal charges be created at ₹450.
- The goodwill of the firm be fixed at ₹6,000 and Barsha's share be adjusted into Ankit and Chanchal capital accounts.
- ₹12,000 from Barsha's capital account be transferred to his loan account and balance be paid in cash, and
- New profit-sharing ratio between Ankit & Chanchal will be 3:2. Prepare Revaluation Account & Partners Capital Accounts.

OR

Varun and Vivek were partners in a firm sharing profits in the ratio of 3:2. The balance in their capital and current accounts as on 1<sup>st</sup> April, 2022 were as under:

| Particulars     | Varun (₹)      | Vivek (₹)      |
|-----------------|----------------|----------------|
| Capital Account | 3,00,000 (Cr.) | 2,00,000 (Cr.) |
| Current Account | 1,00,000 (Cr.) | 28,000 (Dr)    |

The partnership deed provided that Varun was to be paid a salary of ₹ 5,000 p.m. whereas Vivek was to get a commission of ₹ 30,000 for the year. Interest on capital was to be allowed @ 8% p.a. whereas interest on drawings was to be charged @ 6% p.a. The drawings of Varun were ₹3,000 at the beginning of each quarter while Vivek withdrew ₹ 30,000 on 1<sup>st</sup> September, 2022. The net profit of the firm for the year, 2022-23, before making the above adjustments was ₹1,20,000. Prepare Profit and Loss Appropriation Account and Partners' Capital and Current Accounts.

25. A and B sharing profits and losses in the ratio of 3:2 agreed upon the dissolution of the firm on 31st March 2018, at which date their Balance sheet was as follows:

6

| Liabilities                    | ₹             | Assets                         | ₹             |
|--------------------------------|---------------|--------------------------------|---------------|
| Trade creditor                 | 60000         | Cash                           | 6000          |
| Employee Provident Fund        | 15000         | Bank                           | 30000         |
|                                |               | Stock                          | 80000         |
| Bills payable                  | 25000         | Sundry Debtors                 | 66000         |
|                                |               | Less: Prov. for doubtful debts | 6000          |
| Investment fluctuation reserve | 24000         | Plant and machinery            | 30000         |
| Profit and Loss A/c            | 11000         | Land and building              | 33000         |
| Capital A/c                    |               | Investment                     | 10000         |
| A-90000                        |               |                                |               |
| B-30000                        | 120000        |                                |               |
| Workman Compensation Reserve   | 20000         | Goodwill                       | 15000         |
|                                |               | Prepaid Insurance              | 1000          |
|                                |               | Advertisement exp              | 10000         |
|                                | <b>275000</b> |                                | <b>275000</b> |

The firm was dissolved on the given date and following transition took place:

- B undertook to pay employee provident fund.
  - A took 60% stock at a profit of 10% and remaining stock was sold at a discount of 20% on cost.
  - Land and building & investments realized ₹1,40,000 and ₹8,000 respectively.
  - Trade creditor accepted plant & machinery loss 10% of value and cash ₹27000 in full settlement of their claim.
  - ₹8,000 of Book debts proved bad. Bills payable were paid in full.
  - Realisation expenses paid by A ₹5000.
  - There was a contingent liability of ₹1,000 for a bill discounted also discharged.
- Prepare Realisation A/c, partner's capital A/c and Bank A/c.

26. Saral Limited having authorized capital of ₹1,00,00,000 divided into equity shares of ₹100 each, invited applications for issuing 25,000 equity shares of ₹100 each at par. The amount per share was payable as follows: On application ₹20 per share, on allotment ₹30 per share, on first ₹25 per share and on Second and final call ₹25 per share. Applications were received for 24,000 shares and the shares were allotted to all the applicants. All calls were made and were received as follows:
- On 18,000 shares- Full amount  
 On 2000 shares- ₹75 per share  
 On 2,500 shares- ₹50 per share, and  
 On 1,500 shares- ₹20 per share.
- The company forfeited those shares on which less than ₹75 per share was received. The forfeited shares were reissued at ₹95 per share fully paid-up.
- Answer the following questions on the basis of above case:
- (i) How many shares were offered to the public for subscription?  
 (a) 25,000 (b) 30,000 (c) 1,00,000 (d) 24,000
- (ii) How much amount was received on allotment?  
 (a) ₹6,75,000 (b) ₹7,20,000 (c) ₹6,00,000 (d) ₹4,80,000
- (iii) How much amount was received on second and final call?  
 (a) ₹6,00,000 (b) ₹4,50,000 (c) ₹5,00,000 (d) ₹5,50,000
- (iv) How much total amount was credited to share forfeiture account on forfeiture of shares?  
 (a) ₹3,80,000 (b) ₹1,35,000 (c) ₹1,55,000 (d) ₹2,45,000
- (v) What is the total amount collected on application?  
 (a) ₹4,80,000 (b) ₹5,00,000 (c) ₹25,00,000 (d) ₹7,20,000
- (vi) How much amount will be transferred to Capital reserve account after re-issue of forfeited shares?  
 (a) ₹3,80,000 (b) ₹1,35,000 (c) ₹1,55,000 (d) ₹2,45,000

#### PART- B

#### Computerized Accounting

27. Which of the following is not an advantage of computerised accounting system ? 1
- A.** Timely generation of reports in desired format  
**B.** Ensures effective control over the system  
**C.** Faster obsolescence of technology  
**D.** Confidentiality of data is maintained
28. A 'legend' can be repositioned on the chart: 1
- A.** On the right side only **B.** On the left side only  
**C.** On the bottom of x-axis **D.** Anywhere
- OR**
- The need for codification is for:
- A.** the generation of mnemonic codes **B.** securing the accounting reports  
**C.** easy processing of data and keeping records **D.** the encryption of data
29. To see all available shape styles of a chart, which of the following buttons is clicked? 1
- A.** More **B.** Chart tool **C.** Picture **D.** Custom
30. A sequential code refers to code applied to some documents where: 1
- A.** Account heads are assigned to documents  
**B.** Numbers and letters are assigned in consecutive order  
**C.** Special names are given to accounts  
**D.** Documents are arranged in special sequence
- OR**
- Name the Accounting information sub-system which is linked with other sub-systems for obtaining information about cost and expenses:
- A.** Cash and Bank sub-system  
**B.** Costing sub-system  
**C.** Expense accounting sub-system  
**D.** Final accounts sub-system
31. Explain the advantages of using charts. 3
32. State any three types of Accounting vouchers used for entry. Explain. 3
33. State any four advantages of Computerised Accounting System. 4

OR

- Explain 'Password security' and 'Data audit' as security features of Computerised Accounting System.
34. What is meant by "Merging a range of cells"? How is it done? State the steps to split a merged cell. 6

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN**  
**2<sup>nd</sup> PRE-BOARD EXAMINATION : (2025-2026)**  
**BUSINESS STUDIES**  
**CLASS: XII**

**Time: 3 Hours****Maximum Marks : 80****Name:** \_\_\_\_\_ **Sec.:** \_\_\_\_\_ **Roll No.:** \_\_\_\_\_**General Instructions:**

- (i) This paper has 34 questions. All questions are compulsory.
- (ii) Marks are indicated against each question.
- (iii) Answer should be brief and to the point.
- (iv) Answer to the questions carrying 3 marks may be from 50-75 words.
- (v) Answer to the questions carrying 4 marks may be about 150 words.
- (vi) Answer to the questions carrying 6 marks may be about 200 words.
- (vii) Attempt all parts of the questions together.

1. "What distinguishes a successful manager from a less successful one is the ability to put the principles into practice." Which aspect of the nature of management is highlighted in the above statement? 1
  - A) Management as a science. B) Management as an art.
  - C) Management as a profession. D) Management is an intangible force.
2. Ajay is working as a sales manager in a company, has been given the task of selling 5000 units of a product at the cost of ₹ 200 per unit within 30 days. He is able to sell all the units within the stipulated time, but had to sell last 200 units at 30% discount in order to complete the target. In such a situation, he will be considered to be 1
  - (A) efficient manager (B) effective manager
  - (C) Both effective and efficient manager (D) None of the above
3. **Assertion (A):** According to Division of work the whole work is divided into small task or unit of work should be assigned to one person according to the capacity, qualification and experience of the person. 1  
**Reason (R):** When a person is performing a part again and again he will become perfect and get the benefit of specialization.  
  - (A) Both Assertion (A) and Reason (R) are True and Reason (R) is the correct explanation of Assertion (A)
  - (B) Both Assertion (A) and Reason (R) are True and Reason (R) is not the correct explanation of Assertion (A)
  - (C) Assertion (A) is True but Reason (R) is False.
  - (D) Assertion (A) is False but Reason (R) is True.
4. To make the annual function of the school successful, the principal of the school divided all the activities into task groups. Each group dealing with a specific area like rehearsals, decoration, refreshments etc. Each group was placed under the supervision of a teacher. Identify the function of management performed by the Principal in doing so. 1
  - A) Planning B) Organising C) Controlling D) Supervision
5. **Statement I** - Secondary market deals with sale and purchase of existing securities. 1  
**Statement II** - Only buying of securities takes place in the primary market.  
 In the light of given statements, choose the correct alternative from the following:  
  - A) Both the statements are true.
  - B) Both the statements are false.
  - C) **Statement I** is true, **Statement II** is false.
  - D) **Statement II** is true, **Statement I** is false.
6. Choose the statement that correctly highlights the benefit of using external sources of recruitment. 1
  - A) Competitive spirit among the existing staff
  - B) Reduction in employees turnover
  - C) Helps in increasing employees satisfaction
  - D) Develops a sense of security amongst employees
7. Mohammad Kanjiwal, a beekeeper since 2021, is now part of the growing tribe of at least 50 dwellers across Maharashtra raising bees and harvesting honey in their balconies, rooftops and back gardens. As he had been focussed on eating right, he thought of domesticating honey bees to promote healthy consumption habits and seeing honey being cultivated right before his eyes was mesmerising for him. Identify the factor constituting the General environment being discussed above. 1
  - A) Economic environment B) Social Environment
  - C) Technological Environment D) Political Environment.

8. **Assertion (A):** Political environment includes political conditions such as general stability and peace in the country and specific attitudes that elected government representatives hold towards business. 1  
**Reason (R) :** The attitudes of government officials towards business may have either positive or negative impact upon business  
 (A) Both Assertion(A) and Reason(R) are True and Reason(R) is the correct explanation of (A)  
 (B) Both Assertion(A) and Reason(R) are True and Reason(R) is not the correct explanation of (A)  
 (C) Assertion(A) is True but Reason(R) is False  
 (D) Assertion(A) is False but Reason(R) is True

9. 1



- Identify the concept of management overlooked by the manager, as shown in the picture.  
 A) Authority                      B) Delegation                      C) Accountability                      D) Decentralisation
10. It refers to the number of subordinates that can be effectively managed by a superior is called..... 1  
 A) Organisational structure                      B) Informal organisation  
 C) Span of management                      D) None of the above
11. In a marketing firm, the Financial Manager pays more attention towards an increase of 3% in the marketing cost as compared to a 15% increase in the courier expenses. Identify the concept being used by the manager. 1  
 A) Management by exception                      B) Critical point control  
 C) Corrective action                      D) None of these
12. Which of the following statements does not highlight the relationship between planning and controlling? 1  
 A) Planning and controlling are separable twins of management.  
 B) Planning without controlling is meaningless, controlling without planning is blind.  
 C) Planning is prescriptive, controlling is evaluative.  
 D) Planning and controlling are interrelated and interdependent.
13. Match the following and choose the correct option: 1

| Column A                      | Column B                                          |
|-------------------------------|---------------------------------------------------|
| a) Production concept         | i) Customers' needs                               |
| b) Product concept            | ii) Quality, performance and features of product. |
| c) Marketing concept          | iii) Customers' needs and societal well-being.    |
| d) Societal Marketing concept | iv) Quantity of product                           |

- A) a (iii) ; b (iv) ; c (i) ; d (ii)                      B) a (iv) ; b (iii) ; c (ii) ; d (i)  
 C) a (iv) ; b (ii) ; c (i) ; d (iii)                      D) a (i) ; b (ii) ; c (iii); d (iv)
14. Stock Exchange works as a mechanism for valuation of securities through the forces of demand and supply. Identify the related function that is performed by the stock exchanges. 1  
 A) Providing liquidity and marketability to existing securities.  
 B) Safety of transaction.  
 C) Pricing of security.  
 D) Spreading of equity cult.
15. The process of holding shares in electronic form is known as 1  
 A) Demutualisation                      B) Dematerialisation  
 C) Speculation                      D) None of these
16. Primary market is associated with \_\_\_\_\_ issues of securities. 1  
 A) Old                      B) New                      C) Old and New                      D) Very Old
17. 'Health First Ltd.' a pharmaceutical company, came out with a gel with the brand name 'Safe' to protect its users from diseases like: Dengue and Chikungunya. However, the company did not give the details about the mode of using the product on its label. Neither did it give details 1

about the ingredients of the product. Because of this, buyers did not know how to use the product and faced several adverse issues.

Identify the product related decision ignored by the company?

A) Branding      B) Labelling      C) Packaging      D) None of these.

18. Anju Limited conducted an online survey through a short questionnaire for getting correct feedback about its new product launch. Identify the marketing function being mentioned in the given line. 1  
A) Gathering and analysing market information      B) Marketing planning  
C) Product designing and development      D) Packaging and labelling
19. In order to compete and keeping in view the recent trends of sales regression, Akash Limited has decided to offer a flat 20 % discount on all its products. Identify the related function of marketing being described in the given lines. 1  
A) Packaging and labelling      B) Branding      C) Pricing      D) Promotion
20. Which of the following is /are factor/s of marketing mix? 1  
A) Product      B) Price      C) Promotion      D) All of these
21. 'AS Ltd.' is a large company engaged in assembling of air-conditioners. Recently the company had conducted the 'Time' and 'Motion' study and concluded that on an average a worker can assemble ten air-conditioners in a day. The target volume of the company in a day is assembling of 1,000 units of air-conditioners. The company is providing attractive allowances to reduce labour turnover and absenteeism. All the workers are happy. Even then the assembling of air-conditioners per day is 800 units only. To find out the reason, the company compared the actual performance of each worker and observed through CCTV that some of the workers were busy in gossiping. 3  
(i) Identify the function of management discussed above.  
(ii) Write the steps in the process of the function identified which are discussed in the above paragraph.
22. A) Give any three points of distinction between the money market and capital market. 3  
**OR**  
B) Give any three protective functions performed by Securities and Exchange Board of India.
23. Define Advertising. What are its main features? Explain. 3  
**OR**  
Discuss the role of 'Sales Promotion' as an element of promotion mix.
24. Ashutosh Goenka was working in 'Axe Ltd.', a company manufacturing air purifiers. He found that the profits has started declining from the last six months. Profit has an implication for the survival of the firm, so he analysed the business environment to find out the reasons for this decline. 3  
i) Identify the level of management at which Ashutosh Goenka was working.  
ii) State three other functions being performed by Ashutosh Goenka.
- OR**  
Dinesh is Superintendent in Care India Group and Harish is working as plant Superintendent in the same company. Name the managerial levels at which Dinesh is working. Write the funtion of that level of management.
25. Explain the Maslow theory of motivation. 4  
**OR**  
Explain any four non- financial incentives of motivation.
26. 'Anushka is doing a course in fashion designing from a reputed institute. As a part of the course, she has been asked to take on-the-job training in an export house for a fortnight in order to gain an insight about various practical aspects related to designing. Anushka, through the references from her senior, joins an export house owned by an upcoming designer, Nandita. In context of the above case: 4  
Name and explain the type of training which Anushka has been asked to undertake.  
Explain briefly any two other method for providing same type of training.
27. Amar is doing his transport business in Delhi. His buses are generally used for the tourists going to Jaipur and Agra. Identify the working capital requirement of Amar giving reason in support of your answer. Further Amar wants to expand and diversify his Transport business. Enumerate any four factors that will affect his fixed capital requirements. 4
28. Deeksha is the general manager of a firm offering Telemarketing services. Telemarketing is a method of direct marketing in which a representative of the company solicits prospective customers to buy products or services, either over the phone or through a subsequent face to face, or Web conferencing appointment scheduled during the call. Deeksha ensures that all the call centre representatives are well versed with the local languages to that they can interact effectively with the prospective buyers. Moreover, the employees are provided training to improve upon their troubleshooting skill so that they do not spend too much time with every customer. By acquiring these skills the callers are able to add value to their message and also shorten the call durations, leading to increased customer satisfaction and

profitability of the business. As a part of the firm's policy, Deeksha encourages women, persons from backward communities and persons with special abilities to assume responsible positions in the organization.

In context of the above case:

(a) Identify the type of communication barriers that Deeksha is able to overcome by ensuring that all the call centre representatives are well versed with the local languages.

(b) What are benefits of training employees to an organization?

29. On Sonika's birthday her mother gave her a pair of gold earrings. After one month Sonika observed that the ear-rings are losing their shine. She checked the mark on the ear-rings and found that it was not a proper Hallmark and her mother had been cheated by the shopkeeper. So, she filed a complaint in the district forum which got rejected. Not satisfied by the decision of district forum, she was very much disturbed and after two months, she decided to appeal further. 4

(a) Can Sonika appeal against the decision of the district forum? Give reason in support of your answer.

(b) Write any three responsibilities must be carried on by her mother.

30. 'Sarah Ltd.' is a company manufacturing cotton yarn. It has been consistently earning good profits for many years. This year too, it has been able to generate enough profits. There is availability of enough cash in the company and good prospects for growth in future. It is a well managed organisation and believes in quality, equal employment opportunities and good remuneration practices. It has many shareholders who prefer to receive a regular income from their investments. It has taken a loan of Rs. 40 lakhs from IDBI and is bound by certain restrictions on the payment of dividend according to the terms of loan agreement. From the above discussion the company leads to various factors which decide how much of the profits should be retained and how much has to be distributed by the company. Quoting the lines from the above discussion identify and explain any four such factors. 4

**OR**

A company has been registered under Companies Act with an Authorised capital of Rs 20,000 crores. Its registered office is in Delhi and manufacturing unit in Rajasthan. Its marketing department is in Bhopal. The company is manufacturing different fast moving consumable Goods (FMCG) .

(a) Suggest with the help of diagram a suitable organisation structure.

(b) State any four advantages of above organisation structure.

31. Briefly explain any three of the following techniques of Scientific Management as given by F.W. Taylor: 6
- Method study
  - Functional foremanship
  - Standardization
  - Differential piece wage system

**OR**

Briefly explain any three of the following principles of management given by Henry Fayol:

a. Unity of command    b. Equity    c. Remuneration    d. Initiative

32. Shreyash runs a detergent soap manufacturing factory. He wants to expand his business. He contemplates to enter into the manufacturing of bathing soap, detergent powder, shampoo. By doing this, his company will be able to provide many products. 6

a. Which type of organisational structure will he choose for his factory?

b. Give reason for your answer in (a).

c. Give four advantages of organisational structure named in (a).

33. Radhika got Rs.10,00,000 after selling her parental property which she had got as a gift from her grandmother. Her friend advised her to invest in securities in the stock market. Radhika was unaware of the procedure for the same. Her friend introduced her to a stock broker, who was registered with the National Stock Exchange. Radhika approached the broker. The broker guided her to open a DEMAT account with a Depository, as well as a Bank account. Radhika opened a Bank account & DEMAT account with AXE Bank. 6

(a) Identify the steps in the trading procedure for buying and selling of securities which have been discussed above.

(b) State the next four steps of the trading procedure.

34. Explain any four Marketing philosophies with objectives. 6

**OR**

Explain the six functions of Marketing.

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN**  
**2<sup>ND</sup> PRE-BOARD EXAMINATION: (2025–2026)**  
**ENGLISH CORE**  
**CLASS: XII**

Time: 3 Hours

Maximum Marks:80

NAME: \_\_\_\_\_ SEC.: \_\_\_\_\_ ROLL NO.: \_\_\_\_\_

**General Instructions:**

Read the following instructions very carefully and follow them:

i. This question paper has 13 questions. All questions are compulsory.

ii. This question paper contains three sections:

Section A: Reading Skills

Section B: Creative Writing Skills

Section C: Literature.

iii. Attempt all questions based on specific instructions for each part. Write the correct question number and part thereof in your answer sheet.

iv. Separate instructions are given with each question/part, wherever necessary.

v. Adhere to the prescribed word limit while answering the questions.

**SECTION A: READING SKILLS (22 marks)****1. Read the following passage.****12**

- (1) It was the city's first indoor play park of its kind. Like a good mother, I was sceptical of virtually every aspect of it. How could it succeed? Why should it succeed? How would a set of contraptions in a room hold the attention of today's children? Don't call me paranoid: I stood with dozens of mothers in similar states of quandary while the cheerful staff whisked away the curious kids for an hour. "I thought she blew the whistle after 15 minutes," huffed the pre-teen when she returned.
- (2) The manager came up to me. "I told you, the child would have a blast," she laughed and explained, "There are hardly any parks in our cities". She meant, hardly anywhere children can be themselves and like a Maria in 'The Sound of Music', where they could climb a tree, scrap their knees and tear their dresses. Most of the recreation now is limited to electronic activity and given half a chance; children would jump for something more physically explorative, even if it is simple stuff like climbing, whizzing down and jumping on a trampoline.
- (3) Latest researches show that computer games slow down brain development. The 'in' thing till yesterday, they are 'out' today, says Nandita Sharma, parent of a well-adjusted teenager, "Any mother can tell that standing at a console juggling a joy-stick isn't conducive to physical relaxation. I rationed Karan's hours at the video games and made sure he spent evenings with his friends in the little space outside the house." Nandita was also afraid that the bright lights of computer games could hurt young eyes. Nor did she like the topic most of the games are based on. "There's just too much violence and fast activity. I know my kid can't lag behind in today's world and computer games certainly sharpen reflexes, but I wish the games would be more interactive and socially inclusive."
- (4) Indeed, apart from making a zombie out of the child, research indicates that computer games only stimulate activity in the parts of the brain associated with vision and movement. It can also lead the child to be more violent. The lack of mental calisthenics curbs their agility in controlling their response to an unsavoury situation.
- (5) Moreover, most electronic games isolate the child from the group fun of playing outdoors. Playing with peers and taking a toss or two appreciably strengthens the child's tolerance of others. This behaviour is governed by the frontal lobe, which continues to develop in humans till about 20 years. The more this lobe is exercised during moments of restraint, the more the fibres connecting the neurons in this part of the brain thicken, improving the individual's control of reactions. Playing electronic games, research shows, does not encourage the development of this lobe.
- (6) So now parents know what to do-put away the placebos. After school and home assignment hours, the best thing they could do for their kid is invite his friends home and roll the carpet away!

**Answer the following questions, based on the passage above.**

- I. The author was paranoid about the indoor play park because 1  
 -----  
 A. she felt that the children may not like it.  
 B. it would not engage the children.  
 C. it could never provide the feeding of playing in a real park.  
 D. she was worried about her child.
- II. Comment on the writer's reference to computer games in paragraph 3, as a 2  
 health problem for children. Answer in about 40 words.
- III. Find the word in Paragraph 4 which means the same as – Unpleasant 1
- IV. Complete the sentence appropriately. 1  
 Most computer games isolate a child from the group fun of playing outdoor games. As a result, the child becomes -----.
- V. Select the option that conveys the synonym of 'doubtful' from the following 1  
 words used in paragraph 1.  
 A. Quandary                      B. Aspect                      C. Paranoid                      D. Sceptical
- VI. List two reasons why parents prefer outdoor physical activity for their children 2  
 in comparison to video games. Answer in about 40 words.
- VII. In the line, "...behaviour is governed by the frontal lobe...", describe the role of 1  
 the frontal lobe as explained in the passage.
- VIII. The given passage states that the 'indoor play park' was a hit. Based on your 1  
 understanding, state the reason for this success.
- IX. Select the most suitable title for the above passage. 1  
 A. The Indoor Park  
 B. The Side Effects of Computer Games  
 C. Say No to Overindulgence in Gadgets  
 D. The Play Park
- X. Why can't the children be themselves anymore, according to paragraph 2 in 1  
 the passage above?

**2. Read the following passage.**

**10**

- (1) Social media addiction is an emerging health problem in India, especially among the young population. Nowadays, irrespective of their socio-economic background, adolescents have greater exposure to electronic gadgets like smartphones at a much younger age. The introduction of internet and the launch of low-cost data packages in 2016/2017 has put India on the global map for largescale consumption of mobile data with active social media users going up to 197 million (14% of the population).
- (2) For adolescents, phone-based communication is an important way to maintain their social relationships. The use of social media websites then is one of the most common activities that has become an integral part of their day-to-day lives. Hence, making them more prone to social media overuse or addiction which may have a deleterious effect on the physical and psychological health. Hence, it became important to study the pattern of social media usage and associated physical and mental health issues among Pre-University (PU) college students as they are the vulnerable group.
- (3) A cross-sectional study was conducted in Government and Private PU colleges situated in Urban Bengaluru city, Karnataka, India, during July to December 2016. The objectives of the study were to assess and compare the prevalence of social media addiction in different organisations, to assess the health problems related to social media usage and to assess the various factors associated with social media addiction.
- (4) A total of 1870 study participants were recruited from both Government and Private PU colleges. Each participant was administered a pretest and a semistructured questionnaire as the study tool. They were asked to answer about the non-academic usage of social media. Scale comprised 10 questions, each given a score ranging from 0 to 4 (0-never, 1-seldom, 2-occasionally, 3-often, and 4-always), with a minimum score of 0 and a maximum score of 40. Participants were classified based on the scores as: Normal (<12), mild addiction (13 – 20), moderate addiction (21 – 32) and severe addiction (≥33).

| Distribution of Study Subjects According to Grading of Social Media Addiction* |            |           |           |
|--------------------------------------------------------------------------------|------------|-----------|-----------|
| GRADING                                                                        | GOVERNMENT | PRIVATE   | TOTAL     |
| MILD                                                                           | 182(80.8)  | 191(66.3) | 373(72.7) |
| MODERATE                                                                       | 39(17.3)   | 93(32.2)  | 132(25.7) |
| SEVERE                                                                         | 4(1.9)     | 4(1.5)    | 8(1.6)    |
| TOTAL                                                                          | 225(100)   | 288(100)  | 513(100)  |

\*Figures in parenthesis indicate percentage

- (5) There was no difference in the prevalence of Social Media Addiction between Government and Private PU college study subjects contrary to the assumption that Private college subjects will be more prone to social media addiction due to higher social status and purchasing capacity.

**Answer the following questions, based on the passage above.**

- I. Why, according to you, are the adolescents susceptible to social media overuse? Answer in about 40 words. 2
- II. Find the option which was NOT an objective for the study? 1
  - A. To assess the health problems associated with social media usage.
  - B. To assess and compare the prevalence of social media in a particular organisation.
  - C. To assess the various factors related to social media usage.
  - D. To assess and compare the prevalence of social media in different organisations.
- III. Give one reason for the rise in active social media users in India. 1
- IV. Complete the following sentence by selecting the most appropriate option. 1

The participants of the survey were asked to answer about the \_\_\_\_\_ usage of social media.

A. academic                      B. non-academic                      C. sober  
D. Both (A) and (B)
- V. Based on the reading of the text, state a point to challenge the given statement. Higher social status and purchasing capacity are directly linked to Social Media Addiction. Answer in about 40 words. 2
- VI. Complete the sentence based on the following statement. 1

It was assumed that private college students will be more prone to social media addiction.

This was because of their \_\_\_\_\_.
- VII. Identify the study tool used in the survey from the following three: 1
  - A. yes-no questions                      B. a scale-based questionnaire
  - C. some physical and IQ based tests                      D. Both (B) and (C)
- VIII. State TRUE or FALSE. 1

Adolescents belonging to poor families do not have greater exposure to smart phones at a much younger age.

### SECTION B: CREATIVE WRITING SKILLS (18 marks)

3. **Attempt ANY ONE of the two, in about 50 words.** 4x1=4
- A. Resonance Public School is located in a Central Government employees' residential colony, Faridabad. The Cultural Society of the School has decided to organise a fancy dress show on 25th of January in which each participant will wear the dress particular to his/her region. The aim is to show the cultural diversity of India. As Secretary, write a notice in about 50 words inviting the names of those who want to participate.
- OR**
- B. You are Ankit/Ankita, a member of the Residents Welfare Association of Sarita Vihar, New Delhi. You wish to help the children of your society with their verbal communication skills. You have planned a one-month course for this purpose.

Draft a notice to be displayed at your Society Bulletin Board giving all the necessary details.

**4. Attempt ANY ONE of the two, in about 50 words.**

4x1=4

- A. You are Vani Gopalan, Chief Executive Officer of Annapurna Pvt. Ltd. You have received an invitation from an NGO 'Sahara' for the launch of the 'Ek Ped Maa Ke Naam' (Plant a tree for your mother) programme. Draft a suitable reply to the invitation in not more than 50 words. You may provide other necessary details.

OR

- B. As the Principal of Silver Bells Public School, Almora, write a formal invitation to the District Magistrate, asking him to be the Chief Guest at the Annual Sports Day of your school. Provide the necessary details.

**5. Attempt any one of the two, (A) or (B), in 120-150 words**

5x1=5

- A. Financial literacy is increasingly recognised as a crucial 21st-century skill for young individuals. Write a letter to the editor of a local daily discussing the benefits of providing financial literacy education to children. Also, suggest effective ways to raise awareness about the importance of this education among parents and guardians. You may use some of the given cues along with your own ideas to draft the letter. You are a counsellor, Chitra Mahapatra from Puri, Odisha.

- What are the long-term benefits of learning financial independence from a young age?
- Why is understanding the power of finances beneficial for young learners?
- Why skills learned during childhood tend to have a lasting impact.

OR

- B. You are Rakhi/Ramesh Sharma from 29 – D, Shanti Park, Bengaluru. You have read an advertisement in 'The Times of India' for the post of Assistant librarian given by St. Darwin Convent Library, Bengaluru. Write an application to apply for the post. Also, give your detailed bio-data separately.

St. Darwin Convent Library, Bengaluru, invites applications from well-qualified and experienced persons for the post of Assistant Librarian.

Eligibility Criteria:

- A Master degree in Library Science with at least 55% marks.
- Minimum 2 years of work experience in a leading academic Institute or University.
- Language proficiency in English and Hindi.

**6. Attempt any one of the two, (A) or (B), in 120-150 words**

5x1=5

- A. You are Hemant/Himanti of Class XII-A. You are a member of the Environment Society of your school. Write an article on 'Reduce Environmental Pollution Through Education and Legislation'. You can take help from the following clues.

- Clues
- Environment getting destroyed due to pollutants and exploitation of natural resources
  - Contamination of environment causes many diseases
  - People need to be educated about using environment friendly items

OR

- B. You are Akhil/Aakriti, Secretary, Health Club. You recently attended a Heart Care Camp organised by Sanjeevni Hospital, Pitampuraj, Delhi, to celebrate Yoga Day. Write a report on the same for your school magazine.

Clues -

- ☐ Camp inaugurated by Mayor
- ☐ Presence of heart specialist and student volunteers
- ☐ People screened for diseases
- ☐ Health education provided
- ☐ Benefits of Yoga in keeping good health.

### SECTION C: LITERATURE (40 marks)

7. Read the following extracts and solve ANY ONE of the given two, (A) or (B). 1x6=6

- A. What I want should not be confused  
with total inactivity .  
Life is what it is about;  
I want no truck with death.  
If we were not so single-minded  
about keeping our lives moving,  
and for once could do nothing,  
Perhaps a huge silence  
might interrupt this sadness  
of never understanding ourselves  
and of threatening ourselves with death.  
(Keeping Quiet)
- I. The poet's intention in the first line is to: 1  
A. give warning to the readers.  
B. give right direction to the readers.  
C. give choice to the readers.  
D. give a clarification to the readers.
- II. Select the option that best explains the stand of the poet in the expression: "I want no truck with death". 1  
A. He advises people to escape death.  
B. He asserts that death is inevitable.  
C. He assures that he does not advocate death.  
D. He expresses his desire not to die.
- III. State whether the given statement is TRUE or FALSE, with reference to the extract. 1  
According to the poet, keeping quiet is to be blamed for the condition of threatening ourselves with death.
- IV. Complete the sentence appropriately. 1  
The essence of the poem 'Keeping Quiet' lies in the \_\_\_\_\_.
- V. The use of the word "perhaps" suggests that poet is \_\_\_\_\_. 1
- VI. What is the tone of the poet in the expression: "If we were not so single minded" 1

### OR

- B. The polished traffic passed with a mind ahead,  
Or if ever aside a moment, then out of sorts  
At having the landscape marred with the artless paint  
Of signs that with N turned wrong and S turned wrong  
Offered for sale wild berries in wooden quarts,  
Or crook-necked golden squash with silver warts,  
Or beauty rest in a beautiful mountain scene,  
You have the money, but if you want to be mean,  
Why keep your money (this crossly) and go along.  
(A Roadside Stand)
- I. What is polished traffic referred to? 1  
A. The common people B. The gullible villagers  
C. The elites of the city D. The public transport
- II. State whether the given statement is TRUE or FALSE, with reference to the extract. 1  
The letters W and S in the signs were painted the wrong way.
- III. What did the roadside stand sell? 1  
A. Only wild berries and golden squash for sale. B. Only wild berries for sale.  
C. Only golden squash for sale. D. Nothing for sale.
- IV. Complete the sentence appropriately with reference to context. 1  
The farmer cursed wealthy city people for \_\_\_\_\_.
- V. There is a word in the poem which suggests the local quality of the produce. What is it? 1
- VI. According to the above extract, where does beauty rest? 1

**8. Read the following extracts and solve ANY ONE of the given two, (A) or (B).** 1x4=4

- A. You lose all earthly sense of perspective and time here. The visual scale ranges from the microscopic to the mighty: midges and mites to blue whales and icebergs as big as countries (the largest recorded was the size of Belgium). Days go on and on and on in surreal 24-hour austral summer light, and a ubiquitous silence, interrupted only by the occasional avalanche or calving ice sheet, consecrates the place. It's an immersion that will force you to place yourself in the context of the earth's geological history. And in humans, the prognosis isn't good.  
(A Journey to the End of the Earth)
- I. Complete the sentence appropriately, with reference to the extract. 1  
The 'visual scale' refers to \_\_\_\_\_.
  - II. While travelling the author is being \_\_\_\_\_. 1
  - III. Why did you lose all earthly sense of perspective and time on Antarctica? 1
  - IV. Choose the option listing the elements that influences one to think of earth's physicality. 1  
1. Breakage of an iceberg from a glacier  
2. Midges and mites  
3. A regular seen avalanche  
4. Summer light in the Southern hemisphere  
A) 1,2                      B) 3,4                      C) 1,3                      D) 2,3

**OR**

- B. Not by you, but by someone who does not know him. I have my own private assassins. Suppose I send two of them to your house tonight or better, any night. You need know nothing about it. It is now warm – what would be more natural than that you should leave the outer partition of the white man's room open to the garden while he sleeps?" (The Enemy)
- I. Complete the sentence appropriately. 1  
There is a need to assassinate 'him' because \_\_\_\_\_.
  - II. List the speaker's purpose behind getting the white man assassinated. 1
  - III. The given lines indicate characteristic/s about the General. These characteristics are \_\_\_\_\_ and \_\_\_\_\_. 1  
A. Care and kindness                      B. Ignorance and self-centered  
C. Humanist and patriotic                      D. Both (A) and (C)
  - IV. Who hatched the plan to kill the white man? Was it successful? 1

**9. Read the following extracts and solve ANY ONE of the given two, (A) or (B).** 1x6=6

- A. The news of Gandhi's advent and of the nature of his mission spread quickly through Muzaffarpur and to Champaran. Sharecroppers from Champaran began arriving on foot and by conveyance to see their champion. Muzaffarpur's lawyers called on Gandhi to brief him; they frequently represented peasant groups in court, they told him about their cases and reported the size of their fee.  
(Indigo)
- I. According to the passage the nature of Gandhi Ji's mission was \_\_\_\_\_. 1
  - II. 'Their cases' in the extract above refer to \_\_\_\_\_. 1
  - III. Select the correct option to fill in the blank. 1  
The cases referred to in the extract were the cases fought against \_\_\_\_\_.  
A. East India Company                      B. the British Landlords  
C. the Lawyers                      D. the Indian Zamindars
  - IV. Based on the above extract, choose the statement that is TRUE for the lawyers. 1  
A. The lawyers wanted to help the poor.  
B. The lawyers stood with Gandhiji in his mission.  
C. The lawyers were apathetic to the condition of the poor.  
D. All of the above
  - V. Identify the textual clue that allows the reader to infer that the lawyers did not care for the condition of the poor. 1
  - VI. Complete the sentence with an appropriate explanation. 1  
The fact that the sharecroppers from Champaran began arriving on foot, shows that \_\_\_\_\_.

**OR**

- B. Together they have imposed the baggage on the child that he cannot put down. Before he is aware, he accepts it as naturally as his father. To do anything else would mean to dare. And daring is not part of his growing up. When I sense a flash of it in Mukesh, I am cheered. "I want to be a motor mechanic," he repeats.  
He will go to a garage and learn. But the garage is a long way from his home. (Lost Spring)
- I. Complete the given sentence appropriately. 1  
'They' in the given extract refers to \_\_\_\_\_.
- II. 'His' growing up did not include \_\_\_\_\_. 1
- III. Select the correct option to fill in the blank. 1  
The 'baggage' in the extract refers to \_\_\_\_\_.  
A. the bag containing bangles B. the job of bangle making  
C. the blame of their crimes D. the job of selling bangles
- IV. Based on the above extract, choose the statement that is TRUE for 'them'. 1  
A. They are figures of authority. B. They are scared of government  
C. They are suppressive. D. Both (A) and (C)
- V. Identify the textual clue that allows the reader to infer that Mukesh's dream will require determination and sincerity. 1
- VI. Why does the writer state that the boy accepts bangle making as naturally as his father? 1
- 10. Answer any five of the following six questions in 40-50 words each : 2x5=10**
- I. The poet does not directly mention about the fear of her mother's death and yet she is successfully able to convey the same through different poetic techniques. Discuss.  
(My Mother at Sixty-Six)
- II. The poem 'Aunt Jennifer's tigers' is replete with symbols. Interpret any two symbols used in the poem.
- III. What does the writer mean by 'the fiery misery of those subjected to make-up?'  
(Poets and Pancakes)
- IV. How does the idea of beauty in the poem promote mental well-being today?  
(A Thing of Beauty)
- V. Which factors led Douglas to decide in favour of YMCA pool? (Deep Water)
- VI. What is the "primitive view" about being photographed? (The Interview)
- 11. Answer any two of the following three questions in 40-50 words each: 2x2=4**
- I. What sort of hunts did the Maharaja offer to organise for the high-ranking British officer? What trait of the officer does it reveal? (The Tiger King)
- II. What is the significance of Galesburg as a symbol in the story?  
(The Third Level)
- III. "It ate my face up. It ate me up. "Who said these lines and why? (On The Face of It).
- 12. Answer any one of the following two questions, in about 120-150 words. 5x1=5**
- A. After leaving the ironmaster's house, the peddler began to do some introspection. As the peddler wrote a diary entry about how despite the stolen money, the treatment from Edla changed him.  
You may begin this way.  
After the amazing welcome by the ironmaster's daughter Edla, I was intrigued to see how people like me are still welcomed and cared for by strangers...
- OR**
- B. Both Franz and Sophie experience moments of self-realisation. Compare how each character responds to these moments and what this reveals about their personalities.
- 13. Answer any one of the following two questions, in about 120-150 words. 5x1=5**
- A. The narratives of Zitkala Sa and Bama, reveal about how children perceive injustice differently from adults? Elucidate.
- OR**
- B. How does the story 'Enemy' question the definition of the word 'enemy'?

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN**  
**2<sup>ND</sup> PRE-BOARD EXAMINATION: (2025 – 2026)**  
**INFORMATION TECHNOLOGY**  
**CLASS: XII**

Time: 3 Hours

Maximum Marks: 60

NAME: \_\_\_\_\_ SEC.: \_\_\_\_\_ ROLL NO.: \_\_\_\_\_

**General Instructions:**

1. Please read the instructions carefully.
2. This Question Paper consists of **24 questions** in two sections – Section A & Section B.
3. Section A has Objective type questions whereas Section B contains Subjective type questions.
4. **Out of the given (6 + 18 =) 24 questions, a candidate has to answer (6 + 11 =) 17 questions in the allotted (maximum) time of 3 hours.**
5. All questions of a particular section must be attempted in the correct order.
6. **SECTION A - OBJECTIVE TYPE QUESTIONS (30 MARKS):**
  - i. This section has 06 questions.
  - ii. There is no negative marking.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.
7. **SECTION B – SUBJECTIVE TYPE QUESTIONS (30 MARKS):**
  - i. This section contains 18 questions.
  - ii. A candidate has to do 11 questions.
  - iii. Do as per the instructions given.
  - iv. Marks allotted are mentioned against each question/part.

**SECTION A: OBJECTIVE TYPE QUESTIONS**

1. **Answer any 4 out of the given 6 questions on Employability Skills:** **(1 X 4 = 4 marks)**
  - i. \_\_\_\_\_ is the process of sending and receiving meaningful information. 1
  - ii. Which of the following is a component of self-management skills? 1
    - a) Laziness                      b) Goal setting                      c) Miscommunication                      d) Ignorance
  - iii. Ravi often feels superior to others, exaggerates his achievements, and constantly seeks admiration. He gets upset when people do not give him special treatment and tends to disregard others' feelings. Which of the following personality disorders best describes Ravi's condition?
    - a) Narcissistic personality disorder                      b) Borderline personality disorder
    - c) Dependent personality disorder                      d) Schizotypal personality disorder
  - iv. Entrepreneurs focused on solving social/environmental problems are called \_\_\_\_\_ entrepreneurs. 1
  - v. "Sustainable development" means: 1
    - a) Using unlimited resources                      b) Meeting needs without harming future generations
    - c) Increasing pollution                      d) Wasting natural resources
  - vi. State True or False: Active listening improves communication. 1
2. **Answer any 5 out of the given 7 questions:** **(1 X 5 = 5 marks)**
  - i. Which of the following is an SQL aggregate function? 1
    - a) SUM()
    - b) WHERE
    - c) ORDER BY
    - d) DISTINCT
  - ii. A table row is also known as \_\_\_\_\_. 1
    - a) Column
    - b) Tuple
    - c) Attribute
    - d) Field
  - iii. Which out of these is the NCERT e-books website? 1
    - a) epathshala.nic.in
    - b) irctc.co.in
    - c) mygov.in
    - d) digitalindia.gov.in
  - iv. CAPTCHA is used for \_\_\_\_\_. 1
    - a) Sorting
    - b) Human verification
    - c) Encryption
    - d) Browsing
  - v. Loop that executes at least once is \_\_\_\_\_. 1
    - a) for
    - b) while
    - c) do-while
    - d) foreach

- vi. In java, logical AND operator is represented by \_\_\_\_\_ 1  
a) &&                      b) &                      c) ||                      d) !
- vii. WIL stands for \_\_\_\_\_ 1
- 3. Answer any 6 out of the given 7 questions: (1 X 6 = 6 marks)**
- i. What is the purpose of shopping cart? 1  
a) Store payment info              b) Hold selected products              c) Advertise              d) Track user
- ii. IRCTC is **not** used for \_\_\_\_\_ 1  
a) Railway booking              b) Movie booking              c) Bus booking              d) Hotel booking
- iii. Name the command that can remove a table permanently. 1  
a) DELETE              b) REMOVE              c) UPDATE              d) DROP
- iv. Degree of a table refers to number of \_\_\_\_\_ 1  
a) Rows              b) Columns              c) Keys              d) Tables
- v. Output of 10 % 3 is \_\_\_\_\_ 1  
a) 0              b) 1              c) 3              d) 10
- vi. A constructor \_\_\_\_\_ 1  
a) has same name as class              b) Returns value              c) Must be static              d) None of these
- vii. Valid variable name in java is \_\_\_\_\_ 1  
a) 2num              b) #price              c) \_value              d) double
- 4. Answer any 5 out of the given 6 questions: (1 X 5 = 5 marks)**
- i. Clause used to filter groups is \_\_\_\_\_ 1  
a) GROUP BY              b) HAVING              c) ORDER BY              d) DISTINCT
- ii. Key that uniquely identifies each record is \_\_\_\_\_ 1  
a) Foreign Key              b) Primary Key              c) Candidate Key              d) Alternate Key
- iii. Full form of NeGP is \_\_\_\_\_ 1  
a) National e-Governance Plan              b) New e-Governance Policy  
c) National e-Governance Portal              d) None of these
- iv. Advantage of online reservation is \_\_\_\_\_  
a) Long queues              b) Limited hours              c) 24×7 access              d) Cash only
- v. Bytecode runs on \_\_\_\_\_  
a) Server              b) Compiler              c) Browser              d) JVM
- vi. Java is \_\_\_\_\_  
a) Case-sensitive              b) Not case-sensitive              c) Only uppercase              d) Only lowercase
- 5. Answer any 5 out of the given 6 questions: (1 X 5 = 5 marks)**
- i. NOT NULL ensures:  
a) No duplicates              b) No empty values              c) Only numbers              d) Sorted values
- ii. Which is a DDL command?  
a) INSERT              b) CREATE              c) UPDATE              d) SELECT
- iii. Online fraud can be avoided by:  
a) Sharing OTP              b) using public Wi-Fi              c) using strong passwords              d) using the same password
- iv. Portal for access to government websites is \_\_\_\_\_  
a) india.gov.in              b) ncert.nic.in              c) digilocker.gov.in              d) sso.gov.in
- v. The string length method in java is \_\_\_\_\_  
a) size()              b) count()              c) length()              d) len()
- vi. Find the error in the code: int x = "Hello";  
a) Missing semicolon              b) Wrong type assignment              c) None              d) Wrong variable name
- 6. Answer any 5 out of the given 6 questions: (1 X 5 = 5 marks)**
- i. Scanner class belongs to \_\_\_\_\_  
a) java.io              b) java.util              c) java.lang              d) java.scanner

- ii. What does a break statement in java do?  
 a) Exits loop                      b) Skips iteration                      c) Ends class                      d) Ends program
- iii. Keyword for inheritance is \_\_\_\_\_  
 a) inherit                      b) extends                      c) implement                      d) include
- iv. Which one of these is a secure payment method?  
 a) OTP-based transaction                      b) Sharing password                      c) sharing PIN                      d) Using Wi-Fi
- v. Cardinality in DBMS means \_\_\_\_\_  
 a) Columns                      b) Keys                      c) Attibutes                      d) Records
- vi. The \_\_\_\_\_ operator is used for pattern matching.  
 a) BETWEEN                      b) IN                      c) AND                      d) LIKE

## **SECTION B: SUBJECTIVE TYPE QUESTIONS**

**Answer any 3 out of given 5 questions on Employability Skills** **(2 X 3 = 6 marks)**

**Answer each questions in 20-30 words**

7. What is goal setting? Mention any two characteristics of SMART goals.
8. Write any two uses of presentation software.
9. Mention two precautions while creating a strong password.
10. Explain the term "Green Consumer".
11. How does ICT improve workplace efficiency?

**Answer any 3 out of the given 5 questions:** **(2 X 3 = 6 marks)**

12. Differentiate between DELETE and DROP commands in SQL.
13. Write two advantages of online web applications.
14. Differentiate between while and do-while loops in java.
15. Write two characteristics of an object in Java.
16. What is a foreign key? Give an example.

**Answer any 2 out of the given 3 questions** **(3 X 2 = 6 marks)**

17. Explain any three steps in an online shopping process.
18. Explain need of normalization with example.
19. Predict the output of the following code:

```
int x = 1;
while(x < 4)
{
    System.out.print(x + " ");
    x++;
}
```

**Answer any 3 out of the given 5 questions** **(4 X 3 = 12 marks)**

20. A company maintains a database of **CUSTOMER** and **ORDERINFO**.

### **CUSTOMER**

|     |       |         |
|-----|-------|---------|
| CID | CName | City    |
| C01 | Rohan | Delhi   |
| C02 | Priya | Mumbai  |
| C03 | Karan | Kolkata |

**ORDERINFO**

| OID | CID | Product    | Amount |
|-----|-----|------------|--------|
| O11 | C01 | Laptop     | 55000  |
| O12 | C02 | Headphones | 2500   |
| O13 | C01 | Mouse      | 700    |

Write SQL commands for:

- a) Display Customer Name and Product ordered. 1
  - b) Show total Amount spent by each customer. 1
  - c) List names of customers who ordered items costing more than 5,000. 1
  - d) Add a new order record: (O14, C03, 'Keyboard', 1200). 1
21. Write Java code to: 1+1+2
- a) Declare an integer array of size 5.
  - b) Input 5 numbers.
  - c) Display only even numbers.
22. Explain the development phase of the Web-Development cycle. 4
23. Explain Getter and Setter method citing examples for each. 2+2
24. Write a program in Java to take a number as input and print the reverse of the number. 4

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN.**  
**2<sup>ND</sup> PRE-BOARD EXAMINATION: (2025-2026)**  
**SUBJECT: PHYSICAL EDUCATION**  
**CLASS: XII**

Time: 3 Hours

Maximum Marks: 70

NAME: \_\_\_\_\_ SEC.: \_\_\_\_ ROLL NO.: \_\_\_\_

**GENERAL INSTRUCTIONS**

- 1) The question paper consists of 5 sections and 37 Questions.
- 2) Section A consists of questions 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.
- 3) Section B consists of questions 19-24 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. Attempt any 5.
- 4) Section C consists of questions 25-30 carrying 3 marks each and are short answer types and should not exceed 100-150 words. Attempt any 5.
- 5) Section D consists of questions 31-33 carrying 4 marks each and are case studies.
- 6) Section E consists of questions 34-37 carrying 5 marks each and are long answer types and should not exceed 200-300 words. Attempt any 3.

**( SECTION - A )**  
**(All questions are compulsory)**

1. Consolation tournament are a part of which type of fixture? 1  
a) Knock -out                      b) League                      c) Combination                      d) Tabular
2. Which of the following procedure is not used for drawing of fixtures for a knockout tournament? 1  
a) Bye                      b) Staircase                      c) Special Seeding                      d) Seeding
3. The first Paralympic games were organised in which country in 1916? 1  
a) USA                      b) Germany                      c) France                      d) Rome
4. Which of the following common postural deformities caused due to bad posture? 1  
a) Flat foot                      b) Round Shoulder                      c) Bow leg                      d) Scoliosis
5. Match the following 1

| LIST-I             | LIST-II             |
|--------------------|---------------------|
| A. Knock-Knee      | 1. Halasana         |
| B. Bow legs        | 2. Chakrasana       |
| C. Lordosis        | 3. Padmasana        |
| D. Round Shoulders | 4. Ardha Chakrasana |

a) A-3, B-4, C-1, D-2                      b) A-2, B-1, C-4, D-3  
c) A-4, B-2, C-1, D-3                      d) A-1, B-3, C-2, D-4
6. In which year Rikli and Jones developed Senior Citizen Fitness Test? 1  
a) 2011                      b) 2001                      c) 2002                      d) 2010
7. Which among the following minerals are essential for proper thyroid function? 1  
a) Calcium                      b) Iodine                      c) Zinc                      d) Copper
8. Which among the following is NOT water- soluble vitamin? 1  
a) Vitamin B                      b) Vitamin B12                      c) Vitamin A                      d) Vitamin C
9. Vakrasana is used for \_\_\_\_\_. 1  
a) obesity                      b) diabetes                      c) asthma                      d) hypertension
10. Soft tissue injuries may be categorised as \_\_\_\_\_ and \_\_\_\_\_. 1  
a) hard, special                      b) acute, overuse                      c) mile ocute                      d) underuse, overuse

11. What is cardiac output? 1  
 a) Blood pumped by heart per minute b) Blood pumped per heart beat  
 c) Blood pumped per hour d) Blood pumped per second
12. A vertical velocity of..... represents the apex of the trajectory. 1  
 a) Zero b) Hundred c) Value of gravity d) One
13. Friction always acts..... the motion of an object. 1  
 a) opposite to b) in the same direction as c) perpendicular d) at a 45 degree angle to
14. Unintentional physical harm is known as - 1  
 a) Hostile aggression b) Instrumental aggression  
 c) negative aggression d) None of the above
15. Which one of the following is a personality trait NOT included in the Big five theory ? 1  
 a) Neuroticism b) introversion c) Conscientiousness. d) Agreeableness.
16. Given below are two statements labelled as assertion(A) and reason(R). 1  
 Assertion (A): Sports training is a special process.  
 Reason(R): It is designed to improve fitness and abilities to perform in a given sport.  
 In the context of above two statements which one of the following is correct.  
 a) Both A & R are true & R is the correct explanation of A.  
 b) Both A & R are true , but R is not the correct explanation of A.  
 c) A is true but R is false.  
 d) A is false but R is true.
17. The disadvantages of football training is - 1  
 a) It can lead to heart disease. b) It keeps the body rigid.  
 c) It requires specialised equipment. d) It is difficult to judge the amount of.
18. Given below are two statements labelled as Assertion (A) & Reason (R). 1  
 Assertion (A): Katichakrasana is also called as fish pose.  
 Reason (R): Katichakrasana is always done in standing position with feet together.  
 In the context above two statements which one of the following is correct ?  
 a) Both A & R are true & R is the correct explanation of A.  
 b) Both A & R are true , but R is not the correct explanation of A.  
 c) A is true but R is false.  
 d) A is false but R is true.

**( SECTION - B )**  
**(Attempt any 5 questions)**

19. What do you mean by Anorexia Nervosa and Bulimia Nervosa? 2
20. Discuss any two food myths. 2
21. What are the various phases in a macro cycle? 2
22. Explain what do you understand by 'dynamic friction '? 2
23. Write a short note on Goal Setting. 2
24. Differentiate between oxygen intake and oxygen uptake. 2

**( SECTION - C )**  
**(Attempt any 5 questions)**

25. Suggest the formation of various committees for systematic and smooth conduct of the Annual Sports Day in your school. 3
26. Explain the difference among deformities of Flat foot, Lordosis and Round Shoulders. 3
27. What is the need for inclusive education in sports? 3
28. Discuss any three pitfalls dieting. 3
29. Explain the purpose of Arm Curl Test for senior citizens. Describes its procedure. 3
30. Discuss any three effects of exercise on muscular system. 3

**(SECTION - D)**

31. On the basis of the given fixture answer the following question. 1 × 4 = 4

|     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|--|
| 1-2 |     |     |     |     |     |  |
| 1-3 | 2-3 |     |     |     |     |  |
| 1-4 | 2-4 | 3-4 |     |     |     |  |
| 1-5 | 2-5 | 3-5 | 4-5 |     |     |  |
| 1-6 | 2-6 | 3-6 | 4-6 | 5-6 |     |  |
| 1-7 | 2-7 | 3-7 | 4-7 | 5-7 | 6-7 |  |

- i. What is a league tournament?
  - a) A tournament where each team plays fixed number of matches.
  - b) A tournament where each team plays every other team.
  - c) A tournament where teams are eliminated after a single loss.
  - d) A tournament where teams play in a circular format.
- ii. What type of league fixture is drawn ?
  - a) Circular fixture.
  - b) Ladder fixture or Staircase fixture.
  - c) Cyclic fixture.
  - d) Knockout fixture.
- iii. Write the formula for finding the total number of matches in a single tournament?
  - a)  $N(N+1)/2$
  - b)  $N(N-1)/2$
  - c)  $N(N+1)$
  - d)  $N(N-1)$
- iv. If the tournament was a knockout tournament, what would be the total number of matches for deciding the winner?
  - a) N
  - b) N-1
  - c) N+1
  - d) N/2

32. On the basis of the given picture answer the following questions.

1 × 4 = 4



- i. This is the example of which kind of exercise.
  - a) isotonic
  - b) isometric
  - c) isokinetic
  - d) micro cycle

ii. These exercises were introduced by -----and-----in1953.

a) Sage ,Alderman      b) Hettinger,Muller      c) De Loone,Crooks      d)Munn,Allport

iii.How many types of isotonic exercise are there.

a) 5                      b) 4                      c) 3                      d)2

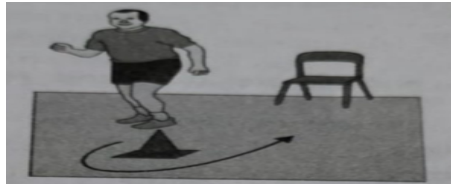
iv.Who developed these exercises?

a) Muller                      b) Sage                      c) De Loone.                      d) Allport

33

On the basis of the given picture answer the following questions .

1×4=4



i. Identify the test conducted in the figure.

a) Chair stand test      b) Arm Curl test      c) Eight foot up and go test      d) Harvard step test

ii. It is a part of \_\_\_\_\_ test protocol.

a) Children Fitness      b) Senior Fitness      c) Adolescent Fitness.      d) None of them

iii. Name another test for the same category of people.

a) Back scratch test      b) Harvard step test      c) Sit-and - reach test      d) Partial curl - up

iv. The test measures-----,-----and-----, while moving.

**(SECTION - E)**  
**(Attempt any 3 questions)**

34. Discuss the asanas helpful for a person suffering from hypertension. Write down the procedure and contraindications of Sarala Matsyasana in detail. 2+3=5
35. What are the different types of Vitamin B complex? Discuss any five of them. 1+4=5
36. Define motivation. Elucidate any five techniques of motivation. 1+4=5
37. Differentiate between isometric and isotonic exercises. Write a brief about any three physiological factors determining Speed . 2+3=5

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN**  
**2<sup>nd</sup> PRE-BOARD EXAMINATION: (2025-2026)**  
**CHEMISTRY**  
**CLASS: XII**

Time: 3 Hours

Maximum Marks: 70

NAME: \_\_\_\_\_ SECTION: \_\_\_\_\_ ROLL NO.: \_\_\_\_\_

**General Instructions:**

Read the following instructions very carefully and strictly follow them:

- There are **33** questions in this question paper with internal choice.
- SECTION A** consists of 16 multiple-choice questions carrying **1** mark each.
- SECTION B** consists of 5 very short answer questions carrying **2** marks each.
- SECTION C** consists of 7 short answer questions carrying **3** marks each.
- SECTION D** consists of 2 case-based question carrying **4** marks each.
- SECTION E** consists of 3 long answer questions carrying **5** marks each.
- All questions are compulsory.**
- Use of log tables and calculators is not allowed.**

**Section A**

**The following questions are multiple -choice questions with one correct answer. Each question carries 1 mark. There is no internal choice in this section.**

- Henry's law constant increases with: 1  
 (a) increase in temperature (b) decrease in temperature  
 (c) increase in pressure (d) decrease in pressure
- The standard electrode potential of a half-cell is used to predict: 1  
 (a) reaction rate (b) equilibrium constant  
 (c) the tendency to gain/loss electrons (d) activation energy
- Osmotic pressure of a solution is 0.0821 atm at a temperature of 300 K. The Concentration in moles/lit. will be: 1  
 (a)  $3.3 \times 10^{-3}$  (b) 0.33 (c) 3.3 (d) 0.666
- The time required for the half-completion ( $t_{1/2}$ ) of a first order reaction is: 1  
 (a) dependent on square root of its initial concentration  
 (b) dependent on its initial concentration  
 (c) independent of its initial concentration  
 (d) inversely proportional to its initial concentration
- The value of rate constant for a first order reaction is  $2.303 \times 10^{-2} \text{ s}^{-1}$ . What will be the time required to reduce the concentration to  $\frac{1}{10}$  th of its initial concentration? 1  
 (a) 10s (b) 2303s (c) 23.03s (d) 100s
- Which of the following metals shows highest oxidation states? 1  
 (a) Mn (b) Fe (c) Cr (d) Ni
- The CFSE of  $[\text{CoCl}_6]^{3-}$  is  $18000 \text{ cm}^{-1}$ , the CFSE of  $[\text{CoCl}_4]^-$  will be 1  
 (a)  $18000 \text{ cm}^{-1}$  (b)  $8000 \text{ cm}^{-1}$  (c)  $2000 \text{ cm}^{-1}$  (d)  $16000 \text{ cm}^{-1}$
- Which of the following is more reactive towards  $\text{S}_\text{N}^1$  reaction? 1  
 (a)  $\text{CH}_2=\text{CHCH}_2\text{Br}$  (b)  $\text{C}_6\text{H}_5\text{CH}_2\text{Br}$  (c)  $\text{C}_6\text{H}_5\text{CH}(\text{C}_6\text{H}_5)\text{Br}$  (d)  $\text{C}_6\text{H}_5\text{CH}(\text{CH}_3)\text{Br}$
- The compound which reacts fastest with Lucas reagent at room temperature is 1  
 (a) butan-1-ol (b) butan-2-ol  
 (c) 2-methylpropan-1-ol (d) 2-methylpropan-2-ol
- Which of the following compounds is oxidised to prepare acetone? 1  
 (a) 2-Propanol (b) 1-Propanol (c) 2-Butanol (d) t-Butyl alcohol
- The correct IUPAC name for  $\text{CH}_2=\text{CHCH}_2\text{NHCH}_3$  is 1  
 (a) Allylmethylamine (b) 2-Amino-4-pentene  
 (c) 4-Aminopent-1-ene (d) N-methylprop-2-en-1-amine
- The presence or absence of hydroxy group on which carbon atom of sugar differentiates RNA and DNA? 1  
 (a) 1<sup>st</sup> (b) 2<sup>nd</sup> (c) 3<sup>rd</sup> (d) 4<sup>th</sup>

**Question No. 13 to 16 consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:**

- a) Both A and R are true, and R is the correct explanation of A.

- b) Both A and R are true, and R is not the correct explanation of A.  
 c) A is true but R is false.  
 d) A is false but R is true.

13. **Assertion (A):** Conductivity decreases with dilution. 1  
**Reason (R):** Number of ions per unit volume decreases on dilution.  
 14. **Assertion (A):**  $[\text{Co}(\text{NH}_3)_6]\text{Cl}_3$  gives 3 ions in solution. 1  
**Reason (R):** Coordination number of Co is 6 in this complex.  
 15. **Assertion (A):**  $\text{V}_2\text{O}_5$  or Pt is used in the preparation of  $\text{H}_2\text{SO}_4$  by contact process. 1  
**Reason (R):** Transition metals are good catalysts.  
 16. **Assertion (A):** Vitamin D can be stored in our body. 1  
**Reason (R):** Vitamin D is fat soluble vitamin and is excreted from the body in urine.

### Section B

**This section contains 5 questions with internal choice in one question. The following questions are very short answer type and carry 2 marks each.**

17. What type of deviation from Raoult's law will be observed by the mixture of ethanol and cyclohexane? What type of azeotrope is formed by this mixture? 2  
 18. Write the IUPAC name of the complex  $[\text{CoCl}_2(\text{en})_2]^+$ . Draw the structure of geometrical isomer of this complex which is optically inactive. 2  
 19. Why are haloarenes are less reactive towards nucleophilic substitution reaction? How does the presence of nitro ( $-\text{NO}_2$ ) group at ortho and para-position in haloarenes increase the reactivity towards nucleophilic substitution reaction? 2  
 20. Give chemical tests to distinguish between the following pairs of compounds. 2  
 (i) Pentan-3-ol and Pentanol  
 (ii) Methanol and Ethanol  
 21. **Attempt either option A or B** 2  
 A. What is meant by the following terms? Give an example of the reaction in each case.  
 (i) Cyanohydrin  
 (ii) Semicarbazone  
 OR  
 B. Explain with suitable example:  
 (i) Stephen Reaction  
 (ii) Etard Reaction

### Section C

**This section contains 7 questions. The following questions are short answer type and carry 3 marks each.**

22. Calculate the boiling point elevation for a solution prepared by adding 10 g of  $\text{MgCl}_2$  to 200 g of water assuming  $\text{MgCl}_2$  is completely dissociated. 3  
 ( $K_b$  for water =  $0.512 \text{ K Kg mol}^{-1}$ , molar mass of  $\text{MgCl}_2$  =  $95 \text{ g/mol}$ )  
 23. Write the Nernst equation and calculate the emf of the following cell at  $25^\circ\text{C}$ : 3  
 $\text{Ni(s)}|\text{Ni}^{2+}(0.160\text{M})||\text{Ag}^+(0.002\text{M})|\text{Ag(s)}$   
 [Given:  $E_{\text{Ni}^{2+}/\text{Ni}}^0 = -0.25\text{V}$ ,  $E_{\text{Ag}^+/\text{Ag}}^0 = 0.80 \text{ V}$ ,  $\log 2 = 0.3010$ ]  
 24. Predict hybridisation, geometry and magnetic moment of the following complexes: 3  
 (i)  $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$   
 (ii)  $[\text{Ni}(\text{CN})_4]^{2-}$   
 25. A compound (A) with molecular formula  $\text{C}_4\text{H}_9\text{I}$ , which is a primary alkyl halide, reacts with alcoholic KOH to give compound (B). Compound (B) reacts with HI to give compound (C) which is an isomer of (A). When (A) reacts with Na metal in the presence of dry ether, it gives a compound (D),  $\text{C}_8\text{H}_{18}$ , which is different from the compound formed when n-butyl iodide reacts with sodium. Write the structures of (A), (B), (C) and (D). Write the chemical equation when compound (A) is reacted with alcoholic KOH. 3  
 26. Write the structure of the products in the following reactions: 3  
 (i)  $\text{Ph-OCH}_3 + \text{HI} \rightarrow$   
 (ii)  $\text{Ph-OH} + \text{conc. HNO}_3 \rightarrow$   
 (iii)  $\text{CH}_3\text{MgBr} + \text{HCHO} \xrightarrow{\text{H}_3\text{O}^+}$   
 27. Give reasons for the following: **(Attempt any three)** 3  
 (i) Benzoic acid does not undergo Friedel-Crafts reaction.

- (ii) HCHO is more reactive than CH<sub>3</sub>CHO towards addition of HCN.
- (iii) Vinyl group directly attached with carboxylic acid should decrease the acidity of corresponding carboxylic acid due to resonance, but on the contrary, it increases the acidity.
- (iv) Formaldehyde cannot be prepared by Rosenmund reduction.
28. Convert 3
- (i) Methyl amine to ethyl amine
- (ii) Benzoic acid to aniline
- (iii) Aniline to p-nitroaniline

### Section D

**The following questions are case -based /data-based questions. Each question has an internal choice and carries 4 (1+1+2) marks each. Read the passage carefully and answer the questions that follow.**

29. The lead-acid battery represents the oldest rechargeable battery technology. 4
- Lead-acid batteries can be found in a wide variety of applications including small-scale power storage such as UPS systems, ignition power sources for automobiles, along with large, grid-scale power systems. The spongy lead acts as the anode and lead dioxide as the cathode. Aqueous sulphuric acid is used as an electrolyte. The half-reactions during discharging of lead storage cells are:
- Anode:  $\text{Pb(s)} + \text{SO}_4^{2-}(\text{aq}) \rightarrow \text{PbSO}_4(\text{s}) + 2\text{e}^-$
- Cathode:  $\text{PbO}_2(\text{s}) + 4\text{H}^+(\text{aq}) + \text{SO}_4^{2-}(\text{aq}) + 2\text{e}^- \rightarrow \text{PbSO}_4(\text{s}) + 2\text{H}_2\text{O}$
- There is no safe way of disposal and these batteries end up in landfills. Lead and sulphuric acid are extremely hazardous and pollute soil, water as well as air. Irrespective of the environmental challenges it poses, lead-acid batteries have remained an important source of energy.
- (i) How many coulombs have been transferred from anode to cathode in order to consume one mole of sulphuric acid during the discharging of lead storage cell?
- (ii) How much work can be extracted by using a lead storage cell if each cell delivers about 2.0 V of voltage? (1 F = 96,500 C)
- Attempt either option (iii) or (iv)**
- (iii) Do you agree with the statement – “Hydrogen is a green fuel.” Give your comments for and against this statement and justify your views.

**OR**

- (iv) Imagine you are a member of an agency funding scientific research. Which of the following projects would you fund and why?
- (a) Safe recycling of lead batteries
- (b) Extraction of hydrogen
30. During a laboratory experiment, students compared the reactivity of aldehydes, ketones and carboxylic acids. They used ethanal, propanone, and benzoic acid. When Tollen's reagent was added to ethanal, a silver mirror formed. Propanone did not react. 4
- To study acidity, they dissolved benzoic acid in water and tested its pH, which showed strong acidity compared to alcohols.
- The teacher demonstrated the reduction of aldehydes using NaBH<sub>4</sub>, converting ethanal to ethanol, while ketones converted to secondary alcohols more slowly.
- (i) Which compound among ethanal, propanone, and benzoic acid shows Tollen's test positive?
- (ii) What is the product formed when ethanal is reduced using NaBH<sub>4</sub>?
- Attempt either option (iii) or (iv)**
- (iii) Why do aldehydes react faster in reduction and oxidation reactions compared to ketones?

**OR**

- (iv) Explain why benzoic acid is more acidic than ethanol.

### Section E

**The following questions are long answer type and carry 5 marks each. All the questions have an internal choice each.**

31. **Attempt either option A or B** 3
- A.(i) Account for the following:

- (a) The  $E_{\text{Mn}^{2+}/\text{Mn}}^0$  value for manganese is highly negative, whereas  $E_{\text{Mn}^{3+}/\text{Mn}}^0$  is highly positive.
- (b) Actinoids show wide range of oxidation states.
- (c) Transition metals have high melting points.
- (ii) Complete the following ionic equations 2
- (a)  $5\text{SO}_3^{2-} + 2\text{MnO}_4^- + 6\text{H}^+ \rightarrow$
- (b)  $2\text{MnO}_4^- + 4\text{H}_2\text{O} + 6\text{I}^- \rightarrow$
- OR**
- B.(i) Name two elements of 3d series for which the third ionisation enthalpies are quite high. 1
- (ii) Out of  $\text{KMnO}_4$  and  $\text{K}_2\text{MnO}_4$ , which one is paramagnetic and why? 1
- (iii) Write any one consequence of lanthanoid contraction. 1
- (iv) How do you prepare potassium manganate from pyrolusite ore? 1
- (v) Why is the ability of oxygen more than fluorine to stabilise higher oxidation states of transition metals? 1
32. **Attempt either option A or B**
- A.(i) Draw the plot of  $\log k$  vs  $\frac{1}{T}$  2
- (ii) The rate constant  $k$  of a reaction at 300 K is  $2.0 \times 10^{-3} \text{ s}^{-1}$  and at 350 K is  $1.2 \times 10^{-2} \text{ s}^{-1}$ . 3
- Calculate the activation energy  $E_a$  for the reaction using the Arrhenius equation.  
(Given  $\log 6 = 0.78$ )
- OR**
- B.(i) Explain Kohlrausch's law. 2
- (ii) Calculate value of  $\Delta G$  and the potential of a galvanic cell at 298 K, where the standard electrode potentials of the half-cells are as follows: 3
- $\text{Ag}^+ + \text{e}^- \rightarrow \text{Ag}$  ( $E^\circ = +0.80 \text{ V}$ )  
 $\text{Cu}^{2+} + 2\text{e}^- \rightarrow \text{Cu}$  ( $E^\circ = +0.34 \text{ V}$ )  
 The concentration of  $\text{Ag}^+$  is 0.01 M and  $\text{Cu}^{2+}$  is 0.1 M.
33. **Attempt either option A or B**
- A.(i) (a) Name an important carbohydrate which makes the cell wall of bacteria and plants. What is the basic unit of this carbohydrate? 3
- (b) How are these basic units linked to each other, name the linkage.
- (c) Draw the Haworth structure of the basic unit.
- (ii) Identify the disaccharide with molecular formula  $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ , which produces 2 moles of  $\alpha\text{-D (+) Glucose}$  on hydrolysis. What will be the observation when Tollen's reagent is added to such a disaccharide? 1
- (iii) Change in optical rotation is observed when sucrose is hydrolysed. What is the reason for the inversion of configuration observed? 1
- OR**
- B.(i) What are the main structural differences between amylose and amylopectin? 1
- (ii) What type of bonding helps in stabilising the  $\alpha$ -helix structure of proteins? 1
- (iii) What products would be formed when a nucleotide from DNA containing thymine is hydrolysed? 1
- (iv) Keratin is a hair protein. What kind of tertiary protein is this? Comment on its solubility in water. 2

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN**  
**2<sup>ND</sup> PRE-BOARD EXAMINATION : (2025-2026)**

**BIOLOGY****CLASS: XII****Time: 3 Hours****Maximum Marks: 70**

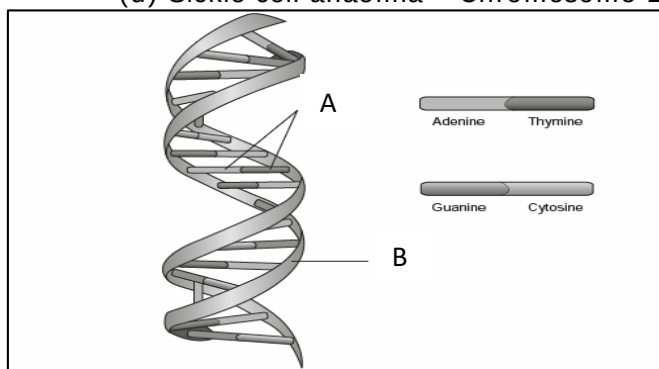
**NAME:** \_\_\_\_\_ **SEC.:** \_\_\_\_\_ **ROLL NO.:** \_\_\_\_\_

**General Instructions:**

- This question paper contains 33 questions. All questions are compulsory.
- Section–A has 16 questions of 1 mark each; Section–B has 5 questions of 2 marks each; Section– C has 7 questions of 3 marks each; Section– D has 2 case-based questions of 4 marks each; and Section–E has 3 questions of 5 marks each.
- There is no overall choice. Answer all 33 questions. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- Wherever necessary, neat and properly labelled diagrams should be drawn.

**Section - A**

- Which one of the statements regarding a pair of testes in human male is correct? 1
  - They are present in the abdominal cavity
  - They are formed after puberty
  - They are both reproductive and endocrine in function
  - They are reproductive but not endocrine in function
- The plant parts which consist of two generations one within the other: 1
  - Pollen grains inside the anther
  - Germinated pollen grain with two male gametes
  - Seed inside the fruit
  - Embryo sac inside the ovule
  - (1) and (4)
  - (1) only
  - (1), (2) and (3)
  - (3) and (4)
- All the terminator codons begin with the nucleotide of 1
  - Adenine
  - Cytosine
  - Guanine
  - Uracil
- What is the function of the promoter in a transcription unit? 1
  - Provides a binding site for RNA polymerase
  - Codes for the amino acid sequence of a protein
  - Signals the end of transcription
  - Removes introns from pre-mRNA
- Select the correct match: 1
  - $\beta$  Thalassemia – Chromosome 11
  - Haemophilia - Y linked
  - Phenylketonuria - X linked
  - Sickle cell anaemia – Chromosome 16
- What is indicated by A in the given figure? 1
  - Sugar
  - Phosphate
  - Base Pairs
  - Histone Proteins



- Probability of which of the following is extremely rare in case of haemophilia? 1
  - Carrier female
  - Affected male
  - Affected female
  - Carrier male
- Thymine can also be designated as: 1
  - 3-methyl uracil
  - 2- methyl uracil
  - 4- methyl uracil
  - 5- methyl uracil
- The traditional drink of south India 'Toddy' is made by fermenting sap from ....tree. 1
  - eucalyptus
  - coconut
  - palm
  - date
- After poaching 3 lions in certain forest of Gujarat, only 15 are left in a year. Determine the death rate per capita. 1
  - 5.000
  - 0.200
  - 0.166
  - 0.800

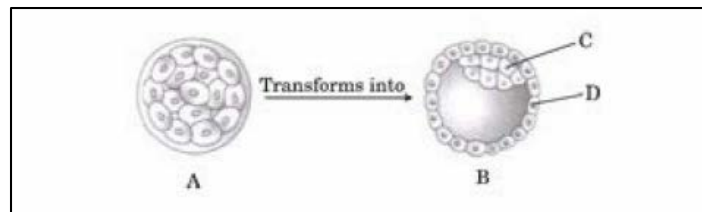
11. Which method is suitable for directly placing rDNA in an animal cell? 1  
 (a) Gene Gun (Biolistics) (b) Heat Shock  
 (c) Treatment with  $\text{CaCl}_2$  (d) Micro-injection
12. Which of the following is used in secondary treatment of sewage water? 1  
 (a) Fermentation tanks (b) Digester tanks  
 (c) Aeration tanks (d) Detoxification tanks

Question number 13 to 16 consists of two statements – **Assertion (A)** and **Reason (R)**. Answer the question selecting the appropriate option given below:

- a) Both A and R are true, and R is the correct explanation of A.  
 b) Both A and R are true, and R is not the correct explanation of A.  
 c) A is true but R is false.  
 d) A is false but R is true.
13. **Assertion(A):** Myometrium undergoes cyclical changes during menstrual cycle. 1  
**Reason(R):** Myometrium lines the uterine cavity.
14. **Assertion(A):** Bt toxin is produced by fungus *Bacillus thuringiensis* 1  
**Reason(R):** Bt toxin is a protein.
15. **Assertion(A):** Body is able to reject organ taken from another recipient. 1  
**Reason(R):** Our body possesses cell mediated immune response responsible for graft rejection.
16. **Assertion(A):** Comparative anatomy provides strong evidence in favour of 1  
 common ancestry of living beings.  
**Reason(R):** Genetic code is universal.

### Section - B

17. Study the given diagram: 2

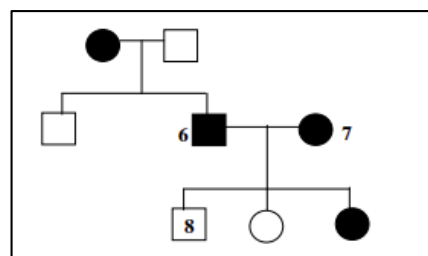


A is an embryonic stage that gets transformed into B. B gets implanted into endometrium in human females. What changes occur in C and D after implantation?

OR

The virus that causes rubella, or “German measles,” has been recognized for decades as a powerful teratogen. During which trimester of pregnancy would it be most dangerous for pregnant women to be exposed to this pathogen? Why?

18. What is the role of B-lymphocytes and T-lymphocytes in acquired immunity? 2
19. The length of a DNA molecule is significantly longer than the diameter of a typical nucleus. How does DNA packaging solve this problem? 2
20. How have transgenic animals proved to be beneficial in: 2  
 (a) Production of biological products  
 (b) Chemical safety testing
21. Study the pedigree chart given below and answer the questions that follow: 2

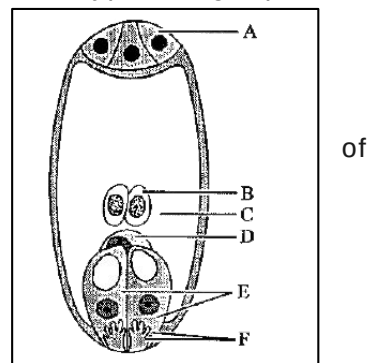


- (a) What is the most likely type of trait being studied in the given chart?  
 (b) State the genotypes of the individuals 6-8 using the letter A to represent the trait (Uppercase A: dominant, Lowercase a: recessive).

### Section - C

22. Examine the diagram representing a mature embryo sac of a typical angiosperm. 3

- (a) Identify the labelled structures A, B, C, and D.  
(b) Explain the role of each structure in the process of double fertilization.



23. Thalassaemia is an autosomal recessive disorder that causes anaemic conditions in an individual. A blood smear from a heterozygous individual shows blood cells that are small, pale and irregularly shaped along with normal RBCs. 3

(a) State the genotypic and phenotypic ratios of offspring born to a carrier mother and a thalassaemic father.

(b) Does the allele for thalassaemia exhibit codominance? Justify.

24. Construct and label a transcription unit (RNA segment, complementary strand, and enzymes) from DNA segment given below has been reverse-transcribed. Write the complete name of the enzyme that transcribed a normal mRNA. 3

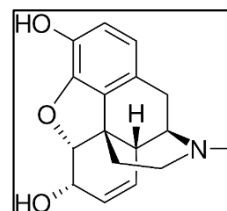


25. (a) Identify the compound A by the chemical structure shown here. 3

(b) Name the plant from which it is obtained.

(c) An acetylated form of this compound A is used as a depressant. Name the compound B formed by acetylation of compound A.

(d) Explain mechanism of action of compound B on human physiology.



26. Name the ancestors of man based on the features given below: 3

(a) Human like, meat-eater with 900 cc brain, lived in Java.

(b) More human with brain size 1400 cc, lived in central Asia, used hides and buried their dead.

(c) Human like, vegetarian, with brain capacity between 650 cc and 800 cc.

27. Expand ZIFT and IUT. How are these two methods different from each other? 3

28. Scientists have succeeded in recovering healthy sugarcane plants from a diseased one. 3

(a) Name the part of the plant used as explant by scientists.

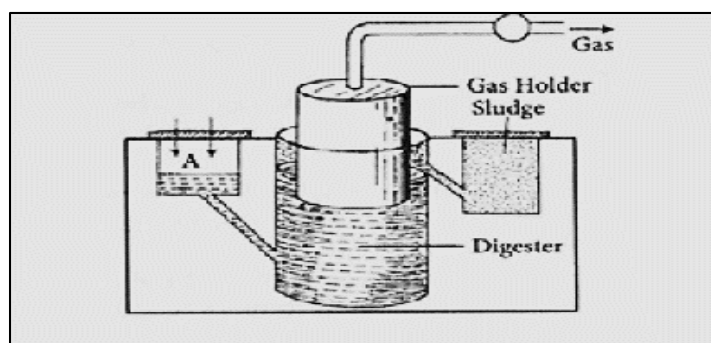
(b) Describe the procedure the scientists followed for recovery of the healthy parts.

(c) Which term is used for each of the plants derived by this method?

(d) The capacity to generate whole plants from cell or explant is known as \_\_\_\_.

### Section - D

29. Study the given picture of biogas plant and answer the following questions: 4



(a) Name the components gaining entry from A into the chamber and the components that get collected in gas holder.

(b) Mention the group of bacteria and the condition in which they act on the

component that entered from A in the digester.

(c) Name two institutions that regulate and implements various strategies regarding biogas plants in India.

**Attempt either (c) or (d)**

(d) Name living organisms which contain the above group of bacteria in their gut.

30. Ecological relationships between organisms play an important role in the biodiversity of the region. In some cases, they benefit the diversity while in others cause a subsequent reduction in it. 4

(a) A significant reduction in the predator population causes species abundance in the prey species. Is this statement TRUE? Give a reason to support your answer.

(b) Barnacles, sticky crustaceans and the blue whale are in a commensal relationship where barnacles use blue whales for transport. How would the extinction of either species cause a change in biodiversity?

**Attempt either (c) or (d)**

(c) In which type of ecological relationship can the extinction of one species lead to the extinction of the other species?

(d) What is the term used to describe the phenomenon describe in (c) called?

### **Section - E**

31. **Attempt either A or B** 5

A (a) Name two hormones that are constituents of contraceptive pills.

(b) What is the advantage of 'Saheli' over other oral contraceptive pills? Justify whether it can be considered an ideal contraceptive.

(c) Name and give a brief description of three types of IUDs.

**OR**

B (a) Describe the events of oogenesis with the help of schematic representation.

(b) Write two differences between oogenesis and spermatogenesis.

32. **Attempt either A or B** 5

A (a) Explain how to find whether an *E. coli* bacterium has transformed or not when a recombinant DNA bearing ampicillin resistant gene is transferred into it. What does the ampicillin resistant gene act as in the above case?

(b) Illustrate the method used by Eli Lilly to produce human Insulin.

**OR**

B Many copies of a specific gene of interest are required to study the detailed sequencing of bases in it. Name and explain the process that can help in developing large number of copies of this gene of interest.

33. **Attempt either A or B** 5

A (a) Explain the following giving suitable examples:

(i) Over exploitation

(ii) Alien species invasion

(iii) Co extinction

(b) Ecological pyramids are described as representations of energy and biomass relationships across trophic levels. Explain the concept of an "inverted pyramid of biomass" and provide an example for it.

(c) Why is the pyramid of energy always upright?

**OR**

B. Compare and contrast exponential and logistic growth models, explaining how resource availability influences population growth in each scenario. Additionally, provide an example of each growth pattern.

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN**  
**2<sup>ND</sup> PRE-BOARD EXAMINATION: (2025-2026)**  
**MATHEMATICS**  
**CLASS: XII**

**Time : 3 Hours****Maximum Marks : 80****NAME: \_\_\_\_\_ SEC.: \_\_\_\_\_ ROLL NO: \_\_\_\_\_****General Instructions :**

1. The Question paper contains 38 questions. All questions are compulsory.
2. The question paper is divided into five sections-A,B,C,D and E.
3. In Section A, Question no. 1 to 18 are multiple choice questions(MCQs) with only one correct option and Question no. 19 and 20 are Assertion-Reason based questions of 1 mark each.
4. In Section B, Question no. 21 to 25 are Very Short Answer (VSA)- type questions, carrying 02 marks each.
5. In Section C, Question no. 26 to 31 are Short Answer (SA)- type questions, carrying 03 marks each.
6. In Section D, Question no. 32 to 35 are Long Answer (LA)- type questions, carrying 05 marks each.
7. In Section E, Question no. 36 to 38 are case study-based questions, carrying 04 marks each.
7. All Questions are compulsory. However, an internal choice has been provided in 2 questions in section B, 3 questions in Section C and 2 questions in Section D and one subpart each in 2 questions of Section E.
8. Use of calculator is not allowed.

**SECTION-A**

**This section comprises of MCQs of 1 mark each. Select the correct option (Question 1-Question 18).**

1. If A and B are two equivalence relations defined on the set C ,the 1  
 (A)  $A \cap B$  is an equivalence relation. (B)  $A \cap B$  is not an equivalence relation.  
 (C)  $A \cup B$  is always an equivalence relation. (D)  $A \cup B$  is not an equivalence relation.
2. Let **Z** be the set of all integers. Then the relation  $R = \{(a, b): 1 + ab > 0\}$  defined on **Z** is 1  
 (A) reflexive and transitive but not symmetric .  
 (B) symmetric and transitive but not reflexive.  
 (C) reflexive and symmetric but not transitive.  
 (D) an equivalence relation.
3. The value of  $\tan\left(\sin^{-1}\frac{3}{5}\right)$  is 1  
 (A)  $\frac{3}{4}$  (B)  $\frac{4}{3}$  (C)  $\frac{5}{4}$  (D)  $\frac{4}{5}$
4. The value of  $\sin^{-1}\frac{1}{\sqrt{2}}$  is 1  
 (A)  $\frac{\pi}{4}$  (B)  $\frac{\pi}{3}$  (C)  $\frac{\pi}{6}$  (D)  $\frac{\pi}{2}$
5. For the curve  $\sqrt{x} + \sqrt{y} = 1$ ,  $\frac{dy}{dx}$  at  $\left(\frac{1}{4}, \frac{1}{4}\right)$  is 1  
 (A) -1 (B) 1 (C) 2 (D)  $-\frac{2}{3}$
6. The order and degree of the equation  $\left(\frac{d^2y}{dx^2}\right)^4 + \left(\frac{d^2y}{dx^2}\right)^3 + \frac{dy}{dx} + 4y = \sin x$  is 1  
 (A) 2,4 (B) 4,3 (C) 3,4 (D) Not defined
7.  $\int_{-\pi}^{\pi} x^{10} \sin^7 x \, dx = ?$  1  
 (A) 1 (B) 2 (C) 0 (D) -1
8.  $\int \frac{dx}{9+4x^2} = ?$  1  
 (A)  $\frac{1}{4} \tan^{-1}\left(\frac{2x}{3}\right) + C$  (B)  $\frac{1}{6} \tan^{-1}\left(\frac{2x}{3}\right) + C$   
 (C)  $\frac{1}{2} \tan^{-1}\left(\frac{4x}{3}\right) + C$  (D)  $\frac{1}{6} \tan^{-1}\left(\frac{4x}{3}\right) + C$
9. The area bounded by  $y = x^2$ , the x -axis and the line  $x = -1$  and  $x = 1$  is 1  
 (A)  $\frac{3}{2}$  sq. unit (B)  $\frac{1}{2}$  sq. unit (C)  $\frac{2}{3}$  sq. unit (D)  $\frac{1}{3}$  sq. unit

10. If  $xe^x = y + \sin^2 x$  then  $\frac{dy}{dx}$  at  $x = 0$  is equal to 1  
 (A) 0 (B) 1 (C) e (D) -1
11. The general solution of the differential equation  $x \frac{dy}{dx} = y - x \tan\left(\frac{y}{x}\right)$  is 1  
 (A)  $x \sin\left(\frac{y}{x}\right) = C$  (B)  $y \sin\left(\frac{x}{y}\right) = C$  (C)  $y \sin\left(\frac{y}{x}\right) = C$  (D)  $x \sin\left(\frac{x}{y}\right) = C$
12.  $\int \frac{dx}{\sqrt{5-4x-2x^2}}$  is 1  
 (A)  $\frac{1}{\sqrt{2}} \sin^{-1} \left[ \sqrt{\frac{3}{7}} (x+1) dx \right]$  (B)  $\frac{1}{2} \sin^{-1} \left[ \sqrt{\frac{3}{7}} (x+1) dx \right]$   
 (C)  $\frac{1}{\sqrt{2}} \sin^{-1} \left[ \sqrt{\frac{2}{7}} (x+1) dx \right]$  (D)  $\frac{1}{\sqrt{2}} \sin^{-1} \left[ \sqrt{\frac{2}{7}} (x-1) dx \right]$
13. The solution of the differential equation  $e^{\frac{dy}{dx}} = x$  is 1  
 (A)  $x(\log x + 1) - y = C$  (B)  $y(\log x + 1) - y = C$   
 (C)  $x(\log x - 1) - y = C$  (D)  $x(\log y - 1) - y = C$
14. If  $e^x + e^y = e^{x+y}$  then  $\frac{dy}{dx}$  is 1  
 (A)  $e^{y-x}$  (B)  $e^{y+x}$  (C)  $-e^{y-x}$  (D)  $2e^{x-y}$
15. The projection of the vector  $\mathbf{i} + \mathbf{j} + \mathbf{k}$  along the vector  $\mathbf{j}$  is 1  
 (A) 0 (B) 1 (C) 2 (D) -1
16. The direction cosine of the line  $\frac{4-x}{2} = \frac{y}{6} = \frac{1-z}{3}$  is 1  
 (A)  $\frac{2}{7}, \frac{3}{7}, \frac{6}{7}$  (B)  $\frac{1}{7}, \frac{2}{7}, \frac{3}{7}$  (C)  $\frac{2}{7}, \frac{-6}{7}, \frac{3}{7}$  (D)  $\frac{1}{7}, \frac{-6}{7}, \frac{-2}{7}$
17. If the points A(-1,3,2), B(-4,2,-2) and D(5,5, $\lambda$ ) are collinear, then the value of  $\lambda$  is 1  
 (A) 10 (B) 9 (C) 8 (D) -10
18. The equation of a line passing through the point (-3,2,-4) and equally inclined to the axes be 1  
 (A)  $x - 3 = y + 2 = z - 4$  (B)  $x + 3 = y - 2 = z + 4$   
 (C)  $\frac{x+3}{1} = \frac{y-2}{2} = \frac{z+4}{3}$  (D)  $\frac{x+3}{3} = \frac{y-2}{2} = \frac{z+4}{1}$

### Assertion –Reason Based Questions

a) Both Assertion and Reason are correct and Reason is the correct explanation for Assertion.

b) Both Assertion and Reason are correct but Reason is not the correct explanation for Assertion.

c) Assertion is true but the Reason is false.

d) Reason is true but the Assertion is false.

19. **Assertion(A):** The pair of lines given by  $r_1 = (i - j) + \lambda(2i + k)$  and  $r_1 = (2i - k) + \mu(i + j - k)$  intersect. 1

**Reason(R):** Two lines intersect each other if they are parallel and shortest distance is equal to zero.

20. Let A and B be two events associated with an experiment such that  $P(A \cap B) = P(A)P(B)$ . 1

**Assertion(A):**  $P\left(\frac{A}{B}\right) = P(A)$  and  $P\left(\frac{B}{A}\right) = P(B)$

**Reason(R):**  $P(A \cup B) = P(A) + P(B)$

### SECTION-B

This section comprises of 5 very short answer type questions of 2 marks each.

21. (A) Find the value of  $\begin{bmatrix} 7 & 1 & 5 \\ 8 & 0 & 0 \end{bmatrix} \begin{bmatrix} 2 \\ 3 \\ 1 \end{bmatrix} + 5 \begin{bmatrix} 1 \\ 0 \end{bmatrix}$  2

OR

(B) Find the inverse of  $A = \begin{bmatrix} 2 & -3 \\ -4 & 7 \end{bmatrix}$

22. Find the differential equation whose solution is  $y = mx$ , where  $m$  is the arbitrary constant. 2

23. (A) An urn contains 10 black and 5 white balls. Two balls are drawn from the urn one after the other without replacement then find the probability that both drawn ball are black. 2

OR

(B) If  $P(A) = 0.4$ ,  $P(B) = 0.8$  and  $P\left(\frac{B}{A}\right) = 0.6$ , find the value of  $P(A \cup B)$

24. Let  $\mathbf{a}$  and  $\mathbf{b}$  are non-collinear vectors. If  $\mathbf{c} = (x-2)\mathbf{a} + \mathbf{b}$  and  $\mathbf{d} = (2x+1)\mathbf{a} - \mathbf{b}$  are collinear, then find the value of  $x$ . 2

25. Find the equation of the line joining the points (-3,4,11) and (1,-2,7) in vector and Cartesian form. 2

### SECTION-C

**This section comprises of 6 short answer type questions of 3 marks each.**

26. (A) Determine the constant  $a$  and  $b$  such that the function  

$$f(x) = \begin{cases} ax^2 + b & \text{if } x > 2 \\ 2 & \text{if } x = 2 \\ 2ax - b & \text{if } x < 2 \end{cases}$$
 is continuous at  $x=2$ . 3
- OR**
27. (B) Find the derivative of the function  $\sqrt{a + \sqrt{a + x}}$  w.r.t  $x$ . 3
- (A) Find the shortest distance between the following lines:  
 $r_1 = (i + j - k) + s(2i + j + k)$  and  $r_2 = (i + j + 2k) + t(4i + 2j + 2k)$  3
- OR**
28. (B) Find the vector and Cartesian equations of the line passing through the point  $(2, 1, 3)$  and perpendicular to the line  $\frac{x-1}{1} = \frac{y-2}{2} = \frac{z-3}{3}$  and  $\frac{x}{-3} = \frac{y}{2} = \frac{z}{5}$ . 3
29. Evaluate :  $\int_0^{\frac{\pi}{2}} \frac{dx}{1 + \sqrt{\tan x}}$  3
30. (A) If  $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ , show that  $A^2 - 5A + 7I = 0$  and hence find  $A^{-1}$ . 3
- OR**
30. (B) If  $A = \begin{bmatrix} 1 & -2 & 3 \\ 0 & -1 & 4 \\ -2 & 2 & 1 \end{bmatrix}$ . Find  $(A^{-1})^T$  3
31. Solve :  $\frac{dy}{dx} = (x + y + 1)^2$  3
31. Find the value of  $\lambda$ , so that the lines  $\frac{1-x}{3} = \frac{7y-14}{\lambda} = \frac{z-3}{2}$  and  $\frac{7-7x}{3\lambda} = \frac{y-5}{1} = \frac{6-z}{5}$  are at right angles. Also find whether the lines are intersecting or not. 3

### SECTION-D

**This section comprises of 4 long answer type questions of 5 marks each.**

32. Solve the system of Linear equations: 5  

$$\frac{2}{x} + \frac{3}{y} + \frac{10}{z} = 4$$

$$\frac{4}{x} - \frac{6}{y} + \frac{5}{z} = 1$$

$$\frac{6}{x} + \frac{9}{y} - \frac{20}{z} = 2$$
33. (A) Evaluate:  $\int \frac{3x+1}{\sqrt{5-4x-x^2}} dx$  5
- OR**
- (B) Evaluate :  $\int \frac{x^2+16}{x^4+256} dx$
34. (A) Solve the following Linear Programming Problem graphically: 5  
 Max  $Z = \frac{35}{2} + 7y$   
 Subject to the constraints,  
 $x + 3y \leq 12$   
 $3x + y \leq 12$   
 $x, y \geq 0$
- OR**
- (B) Solve the following Linear Programming Problem graphically:  
 Max  $Z = x - 7y + 190$   
 Subject to the constraints,  
 $x + y \leq 8$   
 $x + y \geq 4$   
 $x \leq 5, y \leq 5$   
 $x, y \geq 0$
35. Solve the Differential equation : 5  
 $(\cos^2 x) \frac{dy}{dx} + y = \tan x; 0 \leq x \leq \frac{\pi}{2}$

## SECTION - E

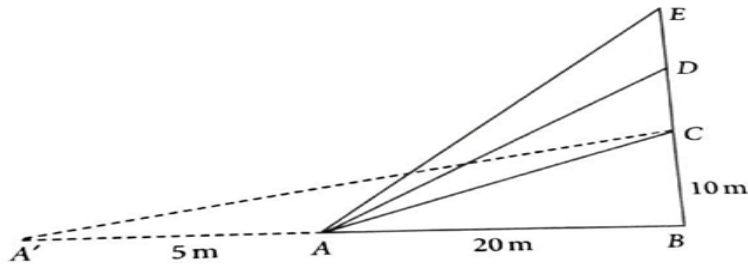
This section comprises of 3 case study / Passage-based questions of 4 marks each with subparts. The first two case study have three subparts (i), (ii), (iii) of marks 1, 1, 2 respectively. The third case study question has two subparts of 2 marks each.

36.

### Case Study-1

The Government of India is planning to fix a hoarding board at the face of a building on the road of a busy market for awareness of Covid-19 protocol. Ram, Robert and Rahim are the engineers who are working on the project. "A" is considered as a person viewing the hoarding board, 20 metres away from the building and standing at the edge of a pathway nearby. Ram, Robert and Rahim suggested to the firm to place the hoarding board at three different locations namely C, D and E. "C" is at the height of 10 metres from the ground level for the viewer A.

The angle of elevation of "D" is double the angle of elevation of "C". The angle of elevation of "E" is triple the angle of elevation of "C" for the same viewer A.



- |       |                                                                                               |   |
|-------|-----------------------------------------------------------------------------------------------|---|
| (i)   | Find the measure of $\angle AEB$ in terms of inverse trigonometric function.                  | 1 |
| (ii)  | Find the domain and range of $\tan^{-1}x$ .                                                   | 1 |
| (iii) | (A) Find the measure of $\angle AEB - \angle ACB$ in terms of inverse trigonometric function. | 2 |

**OR**

(B) If A' is another viewer which is at a distance of 5 m from A as shown in the figure, then find the difference between  $\angle CAB$  and  $\angle CA'B$ .

37.

### Case Study-2

In a family there are four children. All of them have to work in their family business to earn their livelihood at the age of 18.



- |       |                                                                                                             |   |
|-------|-------------------------------------------------------------------------------------------------------------|---|
| (i)   | What is the probability that all children are girls, if it is given that the eldest child is a boy?         | 1 |
| (ii)  | What is the probability that all children are boys, if two elder children are boys?                         | 1 |
| (iii) | (A) Find the probability that two middle children are boys, if it is given that the eldest child is a girl. | 2 |

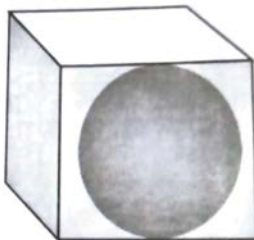
**OR**

(B) Find the probability that all children are boys, if it is given that at most one of the children is a girl.

38.

### Case Study-3

Shreya got a rectangular parallelepiped box and a spherical ball inside it as a return gift. Sides of the box are  $x$ ,  $2x$  and  $\frac{x}{3}$ , while radius of the ball is  $r$ .



- |      |                                                                                                                           |   |
|------|---------------------------------------------------------------------------------------------------------------------------|---|
| (i)  | If the sum of the surface areas of the box and the ball together are given to be constant $k^2$ , find the value of $x$ . | 2 |
| (ii) | Let $S$ be the sum of the volume of parallelepiped and sphere then find the radius of the ball when $S$ is minimum.       | 2 |

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN**  
**2<sup>ND</sup> PRE-BOARD EXAMINATION : (2025-2026)**  
**ECONOMICS**  
**CLASS:XII**

TIME : 3 Hours

Maximum Marks: 80

NAME: \_\_\_\_\_ SEC.: \_\_\_\_\_ ROLL NO.: \_\_\_\_\_

**General Instructions:**

1. This question paper contains two sections:

Section A: Macroeconomics

Section B: Indian Economic Development

2. Marks for questions are indicated against each question.

3. Question No. 1-10 and 18-27 are 1 mark questions and are to be answered in one word/sentence.

4. Question No. 11-12 and 28-29 are 3 marks questions and are to be answered in 60-80 words each.

5. Question no. 13-15 and 30-32 are 4 marks questions and are to be answered in 80-100 words each.

6. Question No. 16-17 and 33-34 are 6 marks questions and are to be answered in 100-150 words each.

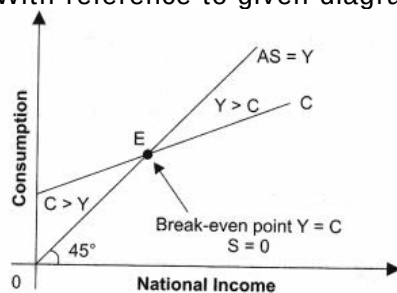
7. Question No. 17 is a case-based question.

8. Answers should be brief and to the point and the above word limit be adhered to as far as possible.

**Section A : MACROECONOMICS**

1. With reference to given diagram answer the following question.

1



APC at break-even point, will be

- a) 1                                      b) 0                                      c) infinity                                      d) none of these

2. If Factor Income to Abroad is Rs. 70 Cr, Factor Income from Abroad will be \_\_\_\_\_ Cr

1

- a) 700                                      b) 140                                      c) 0                                      d) -70

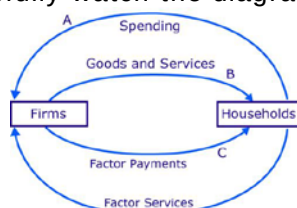
3. An example of non-legal tender of money is

1

- a) coins                                      b) notes  
 c) cheques                                      d) none of these

4. Carefully watch the diagram and answer the following question

1



The money flow in a circular flow of income will be

- a) Spending, Goods and service                                      b) Factor payment, Factor service  
 c) Spending, Factor payment                                      d) Goods and Service, Factor Service

5. Assertion (A): BoP problem can be solved automatically under flexible exchange rate system. Reason (R) : Floating rate influences volume of export and import by changing rate. 1  
 a) Both A and R are true and R is the correct explanation of A  
 b) Both A and R are true and R is not the correct explanation of A  
 c) A is true but R is false  
 d) A is false but R is true.
6. Government imposes \_\_\_\_\_ taxes to reduce deflationary gap 1  
 a) more b) less c) no d) none of this
7. Read the following statements carefully: 1  
 Statement 1: Final Goods do not undergo any further transformation at the hands of any producer.  
 Statement 2: Final goods may get transformed during their consumption by the ultimate purchaser.  
 In light of the given statements, choose the correct option from the following:  
 a) Statement 1 is true and Statement 2 is false.  
 b) Statement 1 is false and Statement 2 is true.  
 c) Both Statements 1 and 2 are true.  
 d) Both Statements 1 and 2 are false.
8. If initial deposit in banking system is Rs. 300 crore and LRR is 20%, total credit creation by commercial banks will be \_\_\_\_\_ crore. 1  
 a) Rs. 1000 b) Rs. 1200 c) Rs.1500 d) Rs.760
9. Repayment of loan to Government falls under capital receipt due to 1  
 a) increase in asset b) decrease in asset.  
 c) increase in liability d) none of these.
10. Identify the correct reason(s) that may affect the demand for foreign exchange in an economy. 1  
 I. Imports of visible  
 II. Exports of invisible  
 III. Remittances by residents working abroad  
 IV. Purchase of assets abroad  
 Alternatives:  
 a) I and II b) II and III  
 c) III and IV d) I and IV
11. Explain why GDP can not be an ideal indicator of development. 3
12. Explain the mechanism behind 'open market operation' as an instrument to control inflation. 3  
**OR**  
 Describe how RBI acts as bankers' bank to develop a strong banking system?
13. Differentiate between stock variable and flow variable. 4  
**OR**  
 Calculate GDP at market price from the following data.
- | Items                                 | Amount (Rs. Cr) |
|---------------------------------------|-----------------|
| Private Final Consumption Expenditure | 1200            |
| Gross Domestic Capital Formation      | 500             |
| Govt. Final Consumption Expenditure   | 700             |
| Export                                | 200             |
| Import                                | 150             |
| Net Factor Income from Abroad         | 80              |
| Depreciation                          | 50              |
| Net Indirect Tax                      | 100             |
14. What do you mean by hedging and managed floating system in foreign exchange market? Give an example to show that depreciation or devaluation led to decrease in import. 2+2
15. Describe inflationary gap with the help of a diagram. 4

16. a) An economy is in equilibrium. Find Marginal Propensity to Consume from the following: 3+3  
 National Income = Rs.2,000,  
 Autonomous Consumption=Rs.400  
 Investment Expenditure = Rs.200  
 b) If a country is in equilibrium, prove that investment multiplier =  $1/(1-MPC)$

**OR**

- a) Describe with diagram how saving curve is derived from a given consumption curve.  
 b) Explain how an economy can reach equilibrium (I-S approach).  
 17. **Read the following case study and answer the questions given below:**

6  
(2+2  
+2)

One of the main criticisms of deficit financing is that they are inflationary. This is because when government increases spending or cuts taxes, aggregate demand increases. Firms may not be able to produce higher quantities that are being demanded at the ongoing prices. Prices will, therefore, have to rise. However, if there are unutilised resources, output is held back by lack of demand. A high fiscal deficit is accompanied by higher demand and greater output and, therefore, need not be inflationary. It has been argued that there is a decrease in investment due to a reduction in the amount of savings available to the private sector. This is because if the government decides to borrow from private citizens by issuing bonds to finance its deficits, these bonds will compete with corporate bonds and other financial instruments for the available supply of funds. If some private savers decide to buy bonds, the funds remaining to be invested in private hands will be smaller. Thus, some private borrowers will get 'crowded out' of the financial markets as the government claims an increasing share of the economy's total savings. However, one must note that the economy's flow of savings is not really fixed unless we assume that income cannot be augmented. If government deficits succeed in their goal of raising production, there will be more income and, therefore, more saving. In this case, both government and industry can borrow more. Also, if the government invests in infrastructure, future generations may be better off, provided the return on such investments is greater than the rate of interest. The actual debt could be paid off by the growth in output. The debt should not then be considered burdensome. The growth in debt will have to be judged by the growth of the economy as a whole.

- a) Why deficit finance is assumed to be dangerous?  
 b) Write the meaning crowding out effect.  
 c) Explain the merits of deficit budget.

1

### **Section B : INDIAN ECONOMIC DEVELOPMENT**

18. Population census of India for the first time was conducted in  
 a) 1851              b) 1872              c) 1901              d) 1921
19. Statement 1: Commercialisation of agriculture improved the financial condition of farmers under British-India 1  
 Statement 2: Around 85% population were dependent on farming in British rule.  
 a) Both the statements are true.  
 b) Both the statements are false.  
 c) Statement 1 is true and Statement 2 is false.  
 d) Statement 2 is true and Statement 1 is false.
20. Which is the apex financial institute to control rural credit in India? 1  
 a) NABARD              b) IDBI              c) RRB              d) Cooperative Bank
21. Assertion (A): Rural women are more employed as compared to urban women in our country. 1  
 Reason (R) : Women are forced to join economic activities in primary sector.  
 a) Both A and R are true and R is the correct explanation of A  
 b) Both A and R are true and R is not the correct explanation of A  
 c) A is true but R is false  
 d) A is false but R is true.
22. Statement 1: Diversification in primary sector is needed to generate more employment and output. 1  
 Statement 2: Disguised unemployed can be absorbed to some extent.  
 a) Both the statements are true.  
 b) Both the statements are false.  
 c) Statement 1 is true and Statement 2 is false.  
 d) Statement 2 is true and Statement 1 is false.

23. Identify the correct combination of the 'Goals of Indian Five Year Plans': 1
- Growth, Technology, Modernisation, Self-Reliance
  - Development, Equality, Modernisation, Sustainability
  - Good Health, Education, Modernisation, Sustainability
  - Growth, Equity, Modernisation, Self-Reliance
24. Assertion (A): Economic development of China is better than India.. 1  
Reason (R) : China is the largest democratic country of the world.  
people owing to stringent family planning programme .
- Both A and R are true and R is the correct explanation of A
  - Both A and R are true and R is not the correct explanation of A
  - A is true but R is false
  - A is false but R is true.
25. From the following statements identify the step not taken in New Economic Policy of 1991. 1
- RBI started to act as facilitator to commercial banks.
  - Indian currency was devalued.
  - In most cases, industrial licensing policy was abolished.
  - India became a closed economy.
26. Which of the following states achieved success in implementation of land reform policy? 1
- Rajasthan
  - Haryana
  - West Bengal
  - Bihar
27. How the problem of unemployment can be solved in India? 1
- Wage employment like MGNREGS
  - Training like TRYSEM for youth
  - Soft loan like MUDRA
  - All of these
28. Explain the negative effects of globalization. 3

**OR**

What do you mean by License-Raj? State the reasons behind the abolition of it.

29. Write the role of human capital in economic development. 3
30. Compare the performance of India as compared to China regarding human development. 4
31. Describe the strategies for sustainable development. 4

**OR**

What are the causes of land degradation? Explain.

32. Suggest the measures to tackle problem of unemployment in our country. 4
33. Explain in details 'growth' and 'self-reliance' as two planning objectives of Indian five-year plan. 6
34. Describe the performance of agricultural and foreign trade sectors during plan period. 6

**OR**

Explain Industrial Policy Resolution of 1956 undertaken by Government of India.

How is Indian economy different from socialist economy like USSR?

## BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN

2<sup>ND</sup> PRE-BOARD EXAMINATION: (2025-26)

## PHYSICS

## CLASS: XII

Time: 3 Hours

Maximum Marks: 70

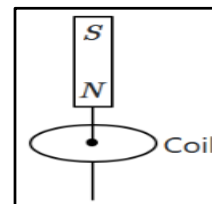
NAME: \_\_\_\_\_ SEC.: \_\_\_\_\_ ROLL NO.: \_\_\_\_\_

**General Instructions:**

- (i) There are 33 questions in all. All questions are compulsory.
- (ii) This question paper has five sections: Section A, Section B, Section C, Section D and Section E.
- (iii) All the sections are compulsory.
- (iv) Section A contains sixteen questions, twelve MCQ and four Assertion Reasoning based of 1 mark each, Section B contains five questions of two marks each, Section C contains seven questions of three marks each, Section D contains two case study-based questions of four marks each and Section E contains three long answer questions of five marks each.
- (v) There is no overall choice. However, an internal choice has been provided in one question in Section B, one question in Section C, one question in each CBQ in Section D and all three questions in Section E. You have to attempt only one of the choices in such questions.
- (vi) Use of calculator is not allowed.

**SECTION - A**

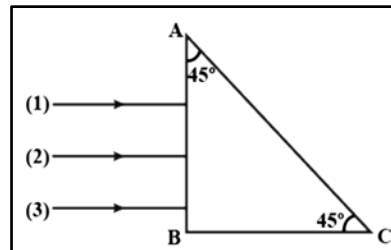
1. A metal cube of side 5cm is charged with 6  $\mu\text{C}$ . The surface charge density of the cube is - 1  
 (a)  $0.125 \times 10^{-3} \text{Cm}^{-2}$  (b)  $0.25 \times 10^{-3} \text{Cm}^{-2}$  (c)  $4 \times 10^{-3} \text{Cm}^{-2}$  (d)  $0.4 \times 10^{-3} \text{Cm}^{-2}$
2. A variable capacitor is connected to a 200 V battery. If its capacitance is changed from 4  $\mu\text{F}$  to X  $\mu\text{F}$ , then the decrease in energy of the capacitor is 0.04 J. the value of X is - 1  
 (a) 3 (b) 2 (c) 4 (d) 1
3. Two solid conductors are made up by of same material, have same length and same resistance. One of them has a circular cross section of area  $A_1$  and the other one has a square cross section area of  $A_2$ . The ratio  $A_1/A_2$  is- 1  
 (a) 1.5 (b) 0.8 (c) 1 (d) 2
4. Two  $\alpha$ -particles have the ratio of their velocities as 3:2 on entering a magnetic field. If they move in different circular paths, then the ratio of the radii of their paths is - 1  
 (a) 2:3 (b) 3:2 (c) 9:4 (d) 4:9
5. The relative magnetic permeability of a substance X is slightly less than unity and that of substance Y is slightly more than unity, then - 1  
 (a) X is paramagnetic and Y is ferromagnetic  
 (b) X is diamagnetic and Y is ferromagnetic  
 (c) X and Y both are paramagnetic  
 (d) X is diamagnetic and Y is paramagnetic
6. A bar magnet is released along the vertical axis of the horizontal conducting coil. The acceleration of the bar magnet is - 1  
 (a) greater than g  
 (b) less than g  
 (c) equal to g  
 (d) zero



7. In series LCR circuit, the capacitance is changed from C to 4C. For the same resonant frequency, the inductance should be changed from L to - 1  
 (a) 2L (b) L/2 (c) L/4 (d) 4L
8. If the magnetic monopole exists, then which of the Maxwell's equation is to be modified? 1  
 (a)  $\oint \mathbf{E} \cdot d\mathbf{S} = q/\epsilon_0$  (b)  $\oint \mathbf{B} \cdot d\mathbf{S} = 0$  (c)  $\oint \mathbf{E} \cdot d\mathbf{l} = -d\phi_B/dt$  (d)  $\oint \mathbf{E} \cdot d\mathbf{l} = \mu_0(I_c + I_d)$
9. The length of an astronomical telescope for normal vision (relaxed eye) will be - 1  
 (a)  $f_o - f_e$  (b)  $f_o/f_e$  (c)  $f_o \times f_e$  (d)  $f_o + f_e$
10. What is the geometric shape of the wavefront that originates when a plane wave passes through a convex lens? 1  
 (a) Converging spherical (b) Diverging spherical (c) Plane (d) Cylindrical

11. What is the main limitation of Rutherford's model? 1  
 (a) Could not explain atomic spectra  
 (b) Could not explain the charge of the nucleus  
 (c) Could not explain the mass of the atom  
 (d) Could not explain the behaviour of neutrons
12. In the following reaction  ${}^{24}_{12}\text{Mg} + {}^4_2\text{He} \rightarrow {}^X_{14}\text{Si} + \text{neutron}$ , the value of X is - 1  
 (a) 28 (b) 27 (c) 26 (d) 22
- For Questions 13 to 16, two statements are given – one labelled Assertion (A) and other labelled Reason (R). Select the correct answer to these questions from the options as given below.**
- a) If both Assertion and Reason are true and Reason is correct explanation of Assertion.  
 b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.  
 c) If Assertion is true but Reason is false.  
 d) If both Assertion and Reason are false.
13. **Assertion (A):** Electric charge is quantized. 1  
**Reason (R):** Charging is because of transfer of an integral number of protons or electrons.
14. **Assertion (A):** Refractive index of glass with respect to air is different for red light and violet light. 1  
**Reason (R):** Refractive index of a pair of media does not depend on the wavelength of light used.
15. **Assertion (A):** No interference pattern is detected when two coherent sources are infinitely close to each other. 1  
**Reason (R):** The fringe width is inversely proportional to the distance between the two sources.
16. **Assertion (A):** In Bohr's model of the atom, the angular momentum of the electron is quantized. 1  
**Reason (R):** The electron in an atom revolves in circular orbits around the nucleus under the influence of electrostatic forces.
- SECTION – B**
17. A capacitor has some dielectric between its plates and the capacitor is connected to a DC source. The battery is now disconnected and then the dielectric is removed. State whether the capacitance, electric field, charge stored and the voltage will increase, decrease or remain constant. 2
18. Define the term 'mobility' of charge carrier in a current carrying conductor. Obtain the relation for mobility in terms of relaxation time. 2
19. An ammeter of resistance  $0.6\ \Omega$  can measure current up to 1.0 A. Calculate: 2  
 (i) The shunt required to enable the ammeter to measure current up to 5 A and  
 (ii) The combined resistance of the ammeter and the shunt.
20. Why are infrared radiations also referred as heat waves? Write one use each for gamma ray and microwave. 2
- OR**
- A plane electromagnetic wave travels in vacuum along z-direction. What can you say about the directions of its electric and magnetic field vectors? If the frequency of the wave is 30 MHz, what is its wavelength?
21. The ground state energy of hydrogen atom is (-13.6) electron volt. What are the kinetic and potential energy of the electron in the 1<sup>st</sup> excited state? 2
- SECTION – C**
22. Explain, giving reasons, how does the internal resistance of a cell change in the following cases: 3  
 (i) When concentration of the electrolyte is increases,  
 (ii) When area of the anode is decreased,  
 (iii) When temperature of the electrolyte is increased.
23. Derive expression for magnetic field on an axial point of a magnetic dipole. 3
24. A step-down transformer operated on a 2.5 kV line. It supplies a load with 20 A. The ratio of the primary winding to the secondary is 10:1. If the transformer is 90% efficient, calculate (i) the power output (ii) the voltage and (iii) the current in the secondary coil. 3

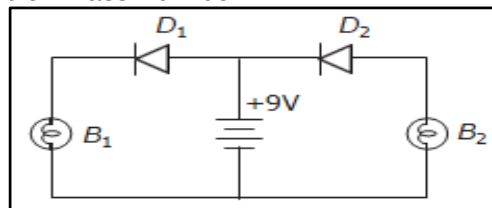
25. Three rays 1, 2, 3 of different colours fall normally on one of the sides of an isosceles right-angled prism as shown in fig. The refractive indices of prism for these rays are 1.39, 1.47 and 1.52 respectively. Find which of these rays get normally reflected and which get only refracted from the surface AC. Trace the path of rays. Justify your answer with the necessary calculations? 3



26. A beam of light consisting of two wavelengths  $6500 \text{ \AA}$  and  $5200 \text{ \AA}$  is used to obtain interference fringes. The distance between the slits is  $2.0 \text{ mm}$  and the distance between the plane of the slits and the screen is  $120 \text{ cm}$ . 3  
 a) Find position of third maxima for first wavelength.  
 b) Find the minimum distance at which maxima of the two wavelengths coincide.
27. (i) Write the number of proton and neutron in  ${}^{144}_{56}\text{Ba}$ . 3  
 (ii) Explain the concept of binding energy per nucleon and its significance, using a graph between binding energy per nucleon and mass number.

**OR**

- (i) Calculate the energy equivalent of one microgram of matter.  
 (ii) Show that the nuclear density is independent of mass number.
28. In the following diagram, which bulb out of  $B_1$  and  $B_2$  will glow and why? 3



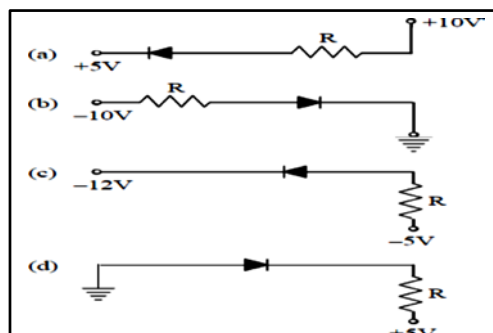
#### SECTION – D

29. **Read the following passage carefully and answer the following questions:** 4  
 According to de-Broglie, a moving material particle sometimes acts as a wave and sometimes as a particle or a wave is associated with moving material particle which controls the particle in every respect. The wave associated with moving material particle is called matter wave or de-Broglie wave whose wavelength called de-Broglie wavelength, is given by  $\lambda = h/mv$ .
- (i) Write the relation between energy and de-Broglie wavelength of a particle.  
 (ii) An electron, an alpha particle, a deuteron and a proton have the same KE. which one has shortest de Broglie wavelength?  
 (iii) **Attempt either sub-part A or B.**  
 A. Photons of energies  $1 \text{ eV}$  and  $2 \text{ eV}$  are successively incident on a metallic surface with work function  $0.5 \text{ eV}$ . What will be the ratio of de-Broglie wavelengths of most energetic photoelectrons in the two cases?

**OR**

- B. The threshold wavelength for photoelectric emission for a material is  $6000 \text{ \AA}$ . What is the power of the lamp required to illuminate the material that emits  $10^{20}$  number of photons per second.
30. **Read the following passage carefully and answer the following questions:** 4  
 When the diode is forward biased, it is found that beyond forward voltage  $V = V_k$ , called knee voltage, the conductivity is very high. At this value of battery biasing for p-n junction, the potential barrier is overcome and the current increases rapidly with an increase in forwarding voltage. When the diode is reverse biased, the reverse bias voltage produces a very small current about a few microamperes which almost remains constant with bias. This small current is reverse saturation current.

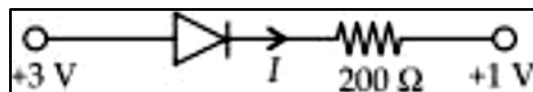
- (i) In which of the following figures, the p-n diode is forward biased -  
 (a) a, b & d  
 (b) c only  
 (c) c & a  
 (d) b & d



- (ii) Based on the V-I characteristics of the diode, we can classify diode as -  
 (a) bilateral device (b) ohmic device (c) non-ohmic device (d) passive device
- (iii) In the case of forward biasing of a p-n junction diode, which one of the following statement is correct?  
 (a) effective barrier potential decreases  
 (b) majority charge carriers begin to flow away from junction  
 (c) width of depletion layer increases  
 (d) effective resistance across the junction increases

**Attempt either sub-part A or B.**

- (iv) A. If an ideal junction diode is connected as shown, then the value of the current  $I$  is -

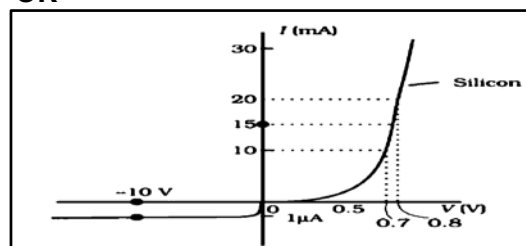


- (a) 0.005 A (b) 0.02 A (c) 0.01 A (d) 0.1 A

**OR**

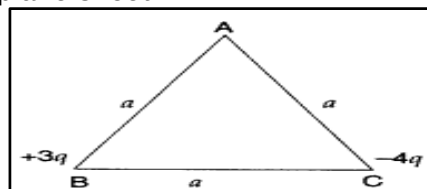
B. The V-I characteristic of a diode is shown in the figure. The value of reverse resistance is

- (a)  $10^5$   
 (b)  $10^6$   
 (c)  $10^4$   
 (d)  $10^7$



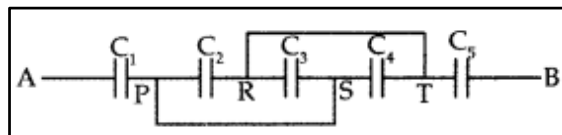
### SECTION - E

31. (i) State Gauss's law in electrostatics. Using this law derive an expression for the electric field due to a uniformly charged infinite plane sheet.
- (ii) Two point charges  $+3q$  and  $-4q$  are placed at the vertices 'B' and 'C' of an equilateral triangle ABC of side 'a' as given in the figure. Obtain the expression for the magnitude of the resultant electric field at the vertex A due to these two charges.



**OR**

- (i) Define the capacitance of a capacitor. Obtain the expression for the capacitance of a parallel plate capacitor in vacuum in terms of plate area A and separation d between the plates.
- (ii) Find equivalent capacitance between A and B in the combination given below. Each capacitor is of  $2 \mu\text{F}$  capacitance.



32. (i) Calculate coefficient of mutual inductance for the system of two co-axial coils of same length but different radii and number of turns.
- (ii) A coil of 50 turns is placed in a magnetic field that changes from 0.2 T to 0.6 T in 0.4 seconds. The area of the coil is  $0.1 \text{ m}^2$ . Calculate the average induced EMF in the coil.

**OR**

- (i) A voltage  $V = V_0 \sin \omega t$  is applied to a series LCR circuit. Derive the expression for the average power dissipated over a cycle.
- (ii) Name any two energy losses in a transformer.
33. (i) A ray of light passing from air through an equilateral glass prism undergoes minimum deviation when the angle of incidence is  $3/4$  of the angle of prism. Calculate the speed of light in the prism.
- (ii) A ray of monochromatic light is incident on the refracting face of a prism angle  $75^\circ$ . It passes through the prism and is incident on the other face at the critical angle. If refractive index of the prism is  $\sqrt{2}$ , what is the angle of incidence on the first face of the prism?

**OR**

- (i) Calculate the speed of light in a medium whose critical angle is  $45^\circ$ . Does critical angle for a given pair of media depend on wave length of incident light? Give reason.
- (ii) An angular magnification of 30X is desired for a compound microscope using an objective of focal length 1.25 cm and eyepiece of focal length 5cm. How will you set up the compound microscope?

**BURNPUR RIVERSIDE SCHOOL, CHITTARANJAN**  
**2<sup>ND</sup> PRE-BOARD EXAMINATION: (2025 – 2026)**  
**COMPUTER SCIENCE**  
**CLASS: XII**

Time: 3 Hours

Maximum Marks: 70

NAME: \_\_\_\_\_ SEC.: \_\_\_\_ ROLL NO.: \_\_\_\_

**General Instructions:**

- i) Please check this question paper contains **37 questions**.
- ii) All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions.
- iii) The paper is divided into **5 Sections- A, B, C, D and E**.
- iv) **Section A**, consists of **21** questions (**1 to 21**). Each question carries **1 Mark**.
- v) **Section B**, consists of **07** questions (**22 to 28**). Each question carries **2 Marks**.
- vi) **Section C**, consists of **03** questions (**29 to 31**). Each question carries **3 Marks**.
- vii) **Section D**, consists of **04** questions (**32 to 35**). Each question carries **4 Marks**.
- viii) **Section E**, consists of **02** questions (**36 to 37**). Each question carries **5 Marks**.
- ix) All programming questions are to be answered using **Python Language only**.
- x) In case of **MCQ**, text of the **correct answer should also be written**.

**SECTION – A**

- A. Select the most appropriate option out of the options given for each question or answer in short:** **[1 X 21 = 21]**
1. **State True or False:** 1  
A variable defined inside a function is destroyed after the function completes execution.
  2. What will be the output of the following code? 1  

```
s = "ANALYSIS"
print(s[1:7:2])
```

a) NLY                      b) NLI                      c) NAI                      d) NLS
  3. Which of the following will evaluate to **True**? 1  

a) 5 > 7 or not False      b) not(4 == 4)      c) False and True      d) not(True or True)
  4. What will `name.split("a")` return for `name = "database"`? 1  

a) ['d', 't', 'b', 'se']      b) ['d', 't', 'bse']      c) ['d', 't', 'b', 's', 'e']      d) Error
  5. Write down the output of the following code. 1  

```
msg = "HELLO WORLD"
print(msg[::-3])
```
  6. Tuples in Python are: 1  

a) Mutable      b) Immutable      c) Partially Mutable      d) Mutable according to values
  7. Which command will cause an error? 1  

Given:  

```
info = {'id':101, 'dept':'CS'}
```

a) `info.get('id')`      b) `info['dept']`      c) `info['salary']`      d) `str(info)`
  8. What will be the contents of the stack after the operations: 1  

```
Push(10), Push(20), Pop(), Push(30)?
```

a) 10, 20, 30      b) 10, 30      c) 20, 30      d) 30, 20, 10
  9. A relation having one primary key and one alternate key has how many candidate keys? 1  

a) 1      b) 2      c) 3      d) None
  10. Fill in the blank to move the file pointer to end of the file: 1  

```
f = open("demo.txt","r")
data = f.read()
```

\_\_\_\_\_
  11. What type of error does a **ZeroDivisionError** represent? 1  

a) Logical error      b) Runtime Exception      c) Syntax error      d) Semantic error
  12. What will be the output of the following code? 1  

```
x = 5
def func():
    global x
    x = x * 2
func()
print(x)
```

a) 5      b) 10      c) error      d) 25
  13. Which SQL command modifies the structure of an existing table? 1

14. What does the following query return?  
 SELECT COUNT(\*) FROM Employee WHERE Salary >= 50000;  
 a) Sum of salaries                      b) Number of employees with salary ≥ 50000  
 c) Minimum salary                      d) Names of employees with salary ≥ 50000
15. Which datatype stores variable-length strings? 1  
 a) CHAR                      b) VARCHAR                      c) INT                      d) FLOAT
16. The maximum value in a column can be found using: 1  
 a) MAX()                      b) TOP()                      c) SUM()                      d) LIMIT()
17. Which protocol is used for secure communication on web? 1  
 a) FTP                      b) SMTP                      c) HTTPS                      d) POP3
18. Which device amplifies signals to extend network length? 1  
 a) Router                      b) Repeater                      c) Bridge                      d) Switch
19. Identify the switching technique where a dedicated path is **not** required for data: 1  
 a) Circuit switching    b) Message switching    c) Packet switching    d) Line switching
- Q20. and 21. are ASSERTION AND REASONING based questions. Mark the correct choice as.**
- (a) Both A and R are true and R is the correct explanation for A  
 (b) Both A and R are true and R is not the correct explanation for A  
 (c) A is True but R is False  
 (d) A is false but R is True
20. **ASSERTION (A):** Keyword arguments in Python do not require any specific order. 1  
**REASON (R):** Keyword arguments are identified by parameter names.
21. **ASSERTION (A):** HAVING clause works on result after grouping. 1  
**REASON (R):** HAVING cannot be used without GROUP BY.
- SECTION – B**
- Answer the following questions in short. [2 X 7 = 14]**
22. A. Can a return statement return multiple values in Python? Explain with an example. 2  
**OR**  
 B. What is an infinite loop? Give an example using a while loop.
23. The code provided below is intended to calculate the square of each element in a list. However, there are syntax and logical errors in the code. Rewrite it after removing all the errors. Also, underline all the corrections made. 2  

```
define square_elements(lst)
    result=[]
    for i in lst:
        result.append(i**2)
    return result
print("Squared Elements: " square_elements[1,2,3,4])
```
24. A. (Answer using Python built-in methods/functions only): 2  
 I. Write a statement to find the index of the first occurrence of the number 8 in a list  
 L1=[3,5,8,2,8,7,1]  
 II. Write a statement to remove the element 2 from the list L1=[3,5,8,2,8,7,1]  
**OR**  
 B. Predict the output of the following Python code:  

```
line = "Trim this text"
print(line.strip())
print(len(line.strip()))
```
25. Predict the output of the following Python code: 2  

```
S = "NOTE"
L = [10, 20, 40]
D = {}
for i in range(len(S)):
    D[L.pop()] = S[i]
for k, v in D.items():
    print(k, v, sep='$')
```
26. (A) Write suitable commands to do the following in MySQL. 2  
 (i) Which SQL clause is used to retrieve only unique values from a column?  
 (ii) Which SQL clause is used to specify conditions for filtering records in a query?
- OR**
- (B) Differentiate between the WHERE and HAVING clauses in MySQL. Give an example for each.

27. (A) Define the following terms: 2  
(i) XML (ii) HTTPS

OR

- (B) (i) Expand the terms: SMTP, POP  
(ii) Write one advantage and one disadvantage of wired over wireless communication.

28. (A) Define a function `capitalize_list()` that accepts a list of names and returns a new list with each name converted to capitalized form. 2

OR

- (B) Define a function `merge_dicts()` that accepts two dictionaries and returns a single dictionary containing all key-value pairs.

**SECTION – C**

**[3 X 3 = 9]**

29. (A) Write a function `showwords()` that reads from a text file named "**Prog.txt**" and displays only those words which have more than 5 letters. 3

OR

- (B) Write a Python function `count_python_lines()` that reads from a text file named "**Prog.txt**" and counts the number of lines that contain the word "Python" (case-sensitive).

30. Consider the Table: Employees (EmpID, EmpName, DeptID, Salary) 3  
Write the following queries:

- (i) Add a Foreign Key on Dept referencing Departments(DeptID).  
(ii) Increase the Salary of employees in Sales department by 15%.  
(iii) Delete the column Dept from the table.

31. A list of books with page counts is: 3

books = [("War and Peace", 1225), ("The Alchemist", 197), ("It Ends With Us", 376), ("The Hobbit", 310)]

Write functions to perform operations on a stack named BigBooks:

I. `Push_element()` - Push only the books having more than 300 pages.

Output:

[('War and Peace', 1225), ('It Ends With Us', 376), ('The Hobbit', 310)]

II. `Pop_element()` - Pop all books from the stack and display them one by one. At the end, display "No more books in stack".

Output:

('The Hobbit', 310)

('It Ends With Us', 376)

('War and Peace', 1225)

No more books in stack.

**SECTION – D**

**[4 x 4 = 16]**

32. Table: **LAPTOPS** 4

| LaptopID | Model       | Brand  | Price | Processor |
|----------|-------------|--------|-------|-----------|
| L01      | Aspire 5    | Acer   | 55000 | i5        |
| L02      | Pavilion    | HP     | 65000 | Ryzen 5   |
| L03      | VivoBook    | Asus   | 48000 | i3        |
| L04      | ThinkPad    | Lenovo | 82000 | i7        |
| L05      | MacBook Air | Apple  | 95000 | M1        |

A. Write SQL Queries:

- i. Display details of laptops whose price is more than 70,000.  
ii. Display the model and brand of all i5 laptops.  
iii. Change the Processor of 'VivoBook' from 'i3' to 'i5'.  
iv. Display the average price of all laptops brand-wise.

OR

B. Predict the Output:

- i. `SELECT Model, Price FROM LAPTOPS WHERE Brand='HP';`  
ii. `SELECT Model FROM LAPTOPS WHERE Price < 60000;`  
iii. `SELECT Brand FROM LAPTOPS WHERE Processor='i7';`  
iv. `SELECT Model FROM LAPTOPS WHERE Model LIKE '%o%';`

33. A school maintains a CSV file "**Library.csv**" to record book issue details. 4

Columns: Roll\_No, Name, Book, Date\_Issued, Status ('R' = Returned, 'I' = Issued).

Write user-defined functions to:

- i. `IssueBook()` – Accept new issue details from the user and append to Library.csv.  
ii. `CountIssuedBooks()` – Display total number of books currently issued (Status = 'I').

34. A database **SchoolDB** has a table **courses** with attributes: 4  
 CourseID (Integer), CourseName (String), Duration (Integer), Fees (Integer)  
 Using connectivity details:  
 Host: localhost, Username: root, Password: admin  
 Write a Python program to delete the record where CourseID = 104.

35. Table: **COURSES** 4

| CourseID | CourseName      | Duration | Fee   | Mode    |
|----------|-----------------|----------|-------|---------|
| CR01     | Python Basics   | 3 months | 8000  | Online  |
| CR02     | Data Science    | 6 months | 25000 | Offline |
| CR03     | Web Development | 4 months | 15000 | Online  |
| CR04     | AI Fundamentals | 5 months | 20000 | Offline |
| CR05     | Excel Mastery   | 2 months | 5000  | Online  |

A. Write the following SQL queries:

- Display all courses whose fee is between 10,000 and 20,000.
- Display the course name and duration of all Online courses.
- Change the mode of 'Excel Mastery' to 'Offline'.
- Display the mode-wise total fee collected.

**OR**

B. Predict the output of the following:

- SELECT CourseName FROM COURSES WHERE Duration > 4;
- SELECT CourseID, Mode FROM COURSES WHERE Fee < 10000;
- SELECT CourseName FROM COURSES WHERE CourseName LIKE '%Data%';
- SELECT CourseName, Fee FROM COURSES WHERE Mode='Offline';

### SECTION – E

**[5 x 2 = 10]**

36. Mr. Ravi, a manager at a tech company, needs to maintain records of employees. Each record 2+3  
 should include: Employee\_ID, Employee\_Name, Department and Salary. =5  
 Write the Python functions to:  
 I. Input employee data and append it to a binary file.  
 II. Update the salary of employees in the "IT" department to 200000.
37. Amritam College has four blocks: Admin Block, Library Block, Science Block, Sports Block 5

**No. of Computers:**

| Block   | Computers |
|---------|-----------|
| Admin   | 40        |
| Library | 60        |
| Science | 90        |
| Sports  | 30        |

**Distances:**

| From and To        | Distance (m) |
|--------------------|--------------|
| Admin to Library   | 100          |
| Library to Science | 70           |
| Science to Sports  | 120          |
| Sports to Admin    | 140          |
| Admin to Science   | 90           |

Answer the following:

- Where should the server be placed? Give reason.
- Suggest the placement of Modem and Switch/Hub.
- Suggest the most suitable topology for connecting all the blocks.
- Name one device that can boost weak signals and extend network range.
- Which type of network (PAN/LAN/MAN/WAN) will be formed?

**OR**

- v. What is VoIP