

**CRESCENT PUBLIC SCHOOL**  
Summer Holiday Home Work 2019  
Std-XII (Commerce)

**Hindi**

1. हाल में पढ़ी हुई किसी एक पुस्तक की समीक्षा लिखिए।
2. 'सिल्वर वेडिंग' पाठ का सारांश लिखिए।
3. 'भक्तिन' पाठ का सारांश लिखिए।
4. 'आत्म-परिचय तथा दिन जल्दी जल्दी ढलता है' कविता का भावार्थ लिखिए।
5. 'योग का महत्त्व' विषय पर अनुच्छेद लिखिए।
6. मोबाइल बिना लगे सब सूना' विषय पर आलेख लिखिए।
7. 'सांस्कृतिक कार्यक्रमों का महत्त्व' विषय पर एक फीचर तैयार कीजिए।

**All work should be done in Test copy.**

**English**

1. Write the meaning of literary device with its example, used in the poetry section of your syllabus.
2. Make a list of 30 words from your text book and write its antonym. Make one sentence from the word and one from its antonym.
3. Suppose you got a ticket as a candidate of a National Party for Lok Sabha Election. Make a list of five issues which you will raise during your election campaign. Make a poster for your election campaign highlighting your tagline. Word limit 100 words ( Use 1/4th white paper or colour chart paper)
4. Write a news paper report on an issue which happened with you or around you that left a deep imprint on your thoughts. (Word limit 250-300)

**Note- Do Qno- 1 & 2 in lit. copy and Qno-4 in writing copy.**

**B.St**

1. Write a brief Biography on Mr "Henry Fayol" in a chart paper and decorate it on the basis of following Points:-
  - a. His Background & History
  - b. Profession
  - c. Education
  - d. Position Held
  - e. His Writing & Contributions
2. Mr Paul is Working in Tata Steel Ltd, a Steel Manufacturing Company in Jamshedpur. He is Responsible for all the activities of the company business & its impact on the society. His Jobs Required more and more long hours as well as commitment to the organization.
  - a. Identify the level at which Paul is working.
  - b. State three more functions which is required to be performed by Paul at this level.
3. Your Father had retired as the Purchase Manager of a Company. At which level of Management was he working? Also state 4 More Functions which Your Father was working when he was In Job.
4. State in Brief any 6 Principles of Management which was developed by Fayol & its Positive Effects as well as its Consequences of Violation of Principles.
5. Write a Brief Summary on F.W. Taylor.
  - a. Background and History
  - b. His Contributions
6. Name the Level of Management engaged in:
  - a. Selection of Employees
  - b. Introducing new Products
  - c. Design a suitable advertisement for campaigning a new product
  - d. Framing the Capital Structure of the Company
  - e. Preparing performance reports of employee
  - f. Hiring casual labourers.

**Account**

1. Define Partnership, Partnership Deed, its content or clauses as well as all provisions which is applicable in absence of Partnership Deed.
2. A & B are partners sharing profit and losses in the ratio of 3:1. On 1<sup>st</sup> April, 2018, their capital were : A- Rs. 50000 & B- Rs. 30000. During the year ended 31-03-19, they earned net profit of Rs 74000. The Terms of Partnership are:-
  - i. Interest On Capital@6% p.a.
  - ii. A will get commission @2% on turnover.
  - iii. B will get a salary of Rs. 500 per month.
  - iv. B will get commission of 5% on profit after deduction of interest, salary & commission including his own commission.
  - v. A is entitled to a rent of Rs. 2000 per Month for the use of his premises by the firm. It is paid to him by cheque at the end of every monthPartners drawing for the year were : A- Rs. 8000, B- Rs. 6000.  
Sales for the Year was Rs 3,00,000. After Considering the above factors, You are required to prepare Profit & Loss Appropriation Account & Capital Account of the Partners.
3. From the Following information, Calculate Value of Goodwill of the Firms:-
  - i. At three Years Purchase of Average Profit.
  - ii. At three Years Purchase of Super Profit.
  - iii. Capitalisation of Super Profit.
  - iv. Capitalisation of Average Profit.

**Relevant information for the question:-**

– Average Capital Employed is Rs 6,00,000.

– Market Rate of Return is 10%

– Net Profit/Loss of the Firm for the last three years ended are:

– 31-03-17 – Rs. 2,20,000, 31-03-18 – Rs. 1,60,000, 31-03-17 – Rs. 1,90,000

Remuneration of Rs. 1,00,000 to partners is to be taken as charge against profit.

Assets of the Firm is Rs 7,00,000, whereas Partners capital is Rs. 6,00,000 & outside liabilities is Rs. 1,00,000.

4. Write in details all the Formulas, Steps involved in valuation of Goodwill & its treatment.

5. Write 10 points distinction between Receipts & Payments Account and Income & Expenditure Account.

6. From the Following transaction and additional information, prepare Income & Expenditure Account of the club and balance sheet as at that date:-

– At the beginning of the year, the club had investments of Rs. 3251 & Musical Instruments of Rs. 870. There were 32 life members on that date, each of whom had paid Rs. 50 as subscriptions. There was a separate fund for this purpose.

– Ordinary Subscriptions in arrear at the beginning of the year is Rs. 35 & at the end of the year is Rs 45. Six months rent of Rs. 60 was due both at the beginning & at the end of the year.

**Receipts & Payments Accounts of YX Ltd for the Year Ending on 31<sup>st</sup> March,2019**

Receipts	Amount	Payments	Amount
<b>Opening Bank:</b>		Rent Expenses	170.00
Cash in hand	320.00	Wages	240.00
Subscription & Entrance Fees	1860.00	Light, Repair	86.00
Donations	120.00	Lecturer Fees	835.00
Interest on Investments	250.00	Purchase of a Table	40.00
Life Membership Fees	100.00	Office Expenses	125.00
Profit From Entertainment	40.00	Sundry Expenses	325.00
		Purchase of National Certificates	475.00
		<b>Closing Balance:</b>	
		Cash in hand	394.00
	<b>2690.00</b>		<b>2690.00</b>

7. Calculate what amount will be posted to Income & Expenditure Account for the Year ending 31<sup>st</sup> march 2019.

– Stock of Stationary on 01-04-18 – Rs. 7000.00

– Creditors for Stationary on 01-04-18 – Rs. 4000.00

– Advance paid for stationary carried forward on 01-04-18 – Rs. 6000.00

– Amount paid for stationary during the year ended on 31-03-19 is Rs. 42000.00

– Stock of Stationary on 31-03-19 – Rs. 3000.00

– Creditors for Stationary on 31-03-19 – Rs. 8000.00

– Advance paid for stationary on 31-03-19 – Rs. 1500.00

8. Discuss in Brief the following terms as well as concepts also & their accounting treatment if any.

i. Endowment Fund

ii. Legacy

iii. Honorarium

iv. Donation Received

v. Sale of Fixed Assets

vi. Consumable Items

vii. Fund Based Accounting

viii. Life Membership Fees

ix. Concept of Depreciation & its calculations

x. Fixed Deposits during the Year

xi. Treatment of Outstanding & Advance Income or Expenses Items.

xii. Calculation of Investments amount when interest on Investment & its rate is given.

9. Discuss in brief the period & its treatment on the Concept "Interest on Partner's Drawings.

10. On 01-04-18, H,U,M entered into partnership with capital Of Rs. 60000; Rs. 50000; Rs. 30000 respectively. M advanced Rs 10000 as loan to the firm on 01-10-18. The deed contains the following clauses:-

– Interest on Capital & Drawing @6% P.a. Each drew Rs 4000 at the end of each quarter starting from 30-06-18.

– H & U to get a salary of Rs. 200 & 300 per month respectively.

– Profit and Losses are to be shared in the ratio of 4:2:1 upto Rs 42000, then 3:2:1 for next Rs. 30000 and if any balance remains, then it should be distributed equally to U & M only.

\*\*\* Net Profit of the Firm for the year ended on 31-03-18 before all adjustments was Rs 1,11,000.

Prepare Profit & Loss Appropriation Account and their Capital Accounts assuming their capital to be Fixed.

**Economics**

1. What do you understand by macro economics?

2. What do you understand by value added method to find national income? Explain briefly.

3. Explain income method and expenditure method to find national income?

4. Explain the precautions taken in finding the national income by income method?

5. What do you mean by double counting? What are its remedies?

6. Do all numericals based on the three methods to find national income given in your text book?

**CRESCENT PUBLIC SCHOOL**  
Summer Holiday Home work 2019  
Std-XII (Science)

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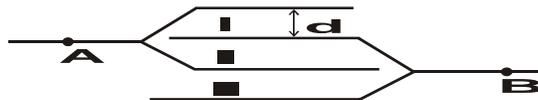
**English**

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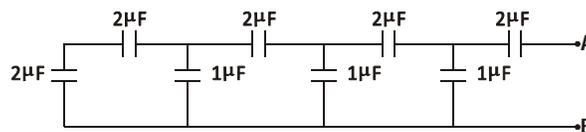
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**Science**  
**Physics**

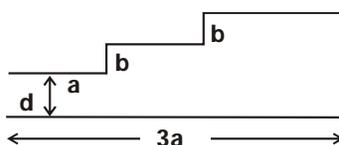
1. Discuss the concept of quantization of electric charge?
2. Why two electric lines of force not intersect each other?
3. What is Electric dipole? Describe the concept of electric dipole moment.
4. Find the electric field intensity, due to electric dipole on axial line?
5. Find electric field intensity due to electric dipole on equatorial line?
6. Describe the concept of series and parallel combination of capacitor?
7. What is the capacitance of arrangement of 4-plates of area A, at distance d, in air?



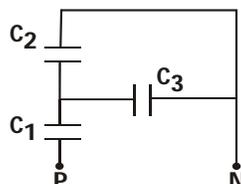
8. Find the capacitance of the combination between A and B.



9. A capacitor is made of a flat plate of area A and a second plate having a stair like structure, the width of each stair is a and the height is b. Find the capacitance of the assembly.

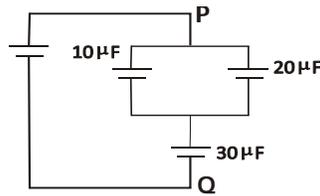


10. Describe the concept of Gauss's theorem? Find the electric field intensity due to infinite long line of charge.
11. Find the equivalent capacitance of the combination between the point P and N.

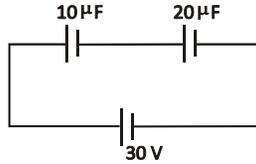


12. Describe the concept of electric field intensity due to infinite thin plane sheet of charge.
13. Find the electric field intensity due to thick infinite plane sheet of charge.

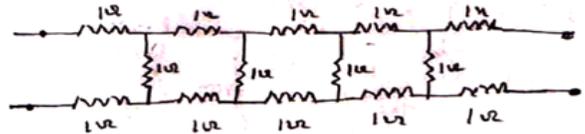
14. Find the Energy of parallel plate capacitor.  
 15. Find the equivalent capacitance of the combination between point P and N.



16. Calculate the charge on each capacitor shown in:

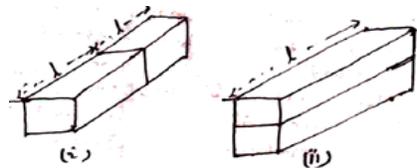


17. a. Three resistors 2 W, 4 W and 5 W are combined in parallel. What is the total resistance of the combination?  
 b. If the combination is connected to a battery of emf 20V and negligible internal resistance, determine the current through each resistor and the total current drawn from the battery.  
 18. A steady current flows in a metallic conductor of non-uniform cross-section. Which of the following quantities is constant along the conductor. (a) current (b) current density (c) electric field (d) drift speed ? Justify.  
 19. Given n resistors each of resistance R, how will you combine them to get the (i) maximum (ii) minimum effective resistance ? What is the ratio of maximum to minimum resistance?  
 20. Determine the current drawn from a 12 V supply with the internal resistance 0.5 W by the infinite network shown here. Each resistor has a resistance of 1 W.

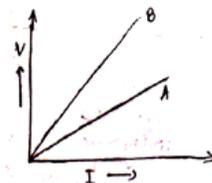


21. Given the resistance of 1 W , 2 W ,3 W . How will you combine them to get an equivalent resistance of (i)  $\frac{11}{3} \Omega$   
 (ii)  $\frac{11}{5} \Omega$       (iii)  $6 \Omega$       (iv)  $\frac{6}{11} \Omega$  ?

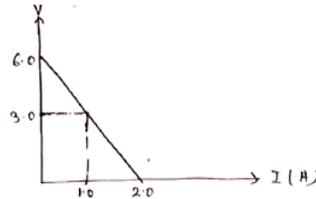
22. If potential difference V applied across a conductor is increased to 2V, how will the drift velocity of the electron change?  
 23. What is the effect of heating of a conductor the drift velocity of free electrons?  
 24. If the temperature of a good conductor increases, how does the relaxation time of electrons in the conductor change?  
 25. Two conducting wires X and Y of the same diameter but different materials are joined in series across a battery of the number density of electrons in X is twice that in Y. Find the ratio of drift velocity of electrons in the two wires.  
 26. Two wires of equal length, one of Cu and the other of manganese have the same resistance? Which is thicker?  
 27. The metallic conductor is at temperature --  $\theta_1$ . The temperature of the metallic conductor is increased to  $\theta_2$ . How will the product of its resistivity and conducting change?  
 28. Sketch a graph showing variation of resistivity of carbon with temperature.  
 29. The identical slab of a given metal and joined together, in two different ways as in figs (i) and (ii). What is the ratio of the resistance if these two combinations



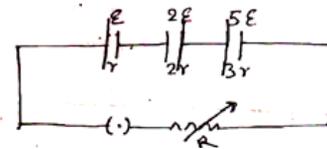
30. The V-I graphs for two resistors of the same materials and the same radii with length  $L_1$  and  $L_2$  are shown in figure. If  $L_1 > L_2$ , State with reason which of these graphs represent V-I change for  $L_1$ .



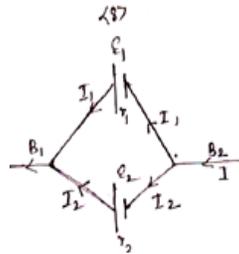
31. A conductor of length  $l$  is connected to a d.c source of potential  $V$ . If the length of the conductor is tripled by stretching it, keeping  $V$  constant, explain how do the following factors vary in the conductor :  
 i. Drift speed of electrons    ii. Resistance    iii. Resistivity
32. You are given  $n$  resistors each of resistance  $r$ . There are first connected to get minimum possible resistance  $n$  the 2nd case, these are again connected differently to get maximum possible resistance. Complete the ratio between minimum and maximum value of resistance so obtained.
33. Two wires  $x, y$  have the same resistance, but their cross-sectional areas are in the ratios  $2:3$  and lengths in the ratio  $1:2$ . They are first connected in series and then in parallel to a d.c source. Find out the ratio of the drift speeds of the electrons in the two wires for the two cases.
34. A cylindrical metallic wire is stretched to increased its length by  $5\%$ . Calculate the % change in the resistance.
35. The adjoining graph shows the variation of terminal potential difference  $V$  across a combinations of there cells in series to a resistors versus the current  $I$ .



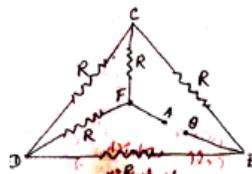
- i. Calculate the emf of each cell  
 ii. For what current  $I$ , will the power dissipation of the circuit be maximum?
36. Two cells of emf  $2e$  and  $e$  and internal resistance  $2r$  and  $r$  respectively are connected in parallel. Obtain the expression for the equivalent emf and the internal resistance of the combination.
37. Three cells of emf  $e, 2e$  and  $5e$  having internal resistance  $r, 2r$  and  $3r$  respectively are connected across a variable resistance  $R$  is shown in figure. Find the expression for the current. Plot a graph for variation of current with  $R$ .



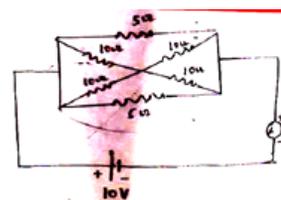
38. Two cell of emf  $e_1$  and  $e_2$  having internal resistance  $r_1$  and  $r_2$  respectively are connected in parallel as shown in figure. Deduce the expression for the equivalent emf and equivalent internal resistance of a cell which can replace the combination between the points  $B_1$  and  $B_2$ .



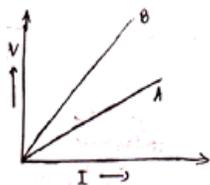
39. i. Calculate the equivalent resistance of the given electrical network between points A and B in the figure.  
 ii. Also calculate the current through CD and ACB if a  $10\text{ V}$  dc source is connected between A and B and value of  $R$  is assumed as  $2\Omega$ .



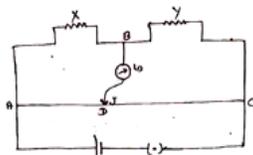
40. Calculate the current shown by the ammeter in the circuit diagram given below:



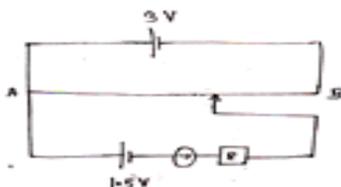
41. Four cells of identical emf  $E$ , internal resistance  $r$ , are connected in series to a variable resistor  $r$ . The graph shows the variation of terminal voltage of the combination with the current output.



- What is the emf of each cell used?
  - Calculate the internal resistance of each cell?
  - For what current from the cells, the maximum power dissipation occur in the circuit?
42. The figure shows experimental set-up of a metre-bridge. When the two unknown resistance  $X$  and  $Y$  are inserted, the null point  $D$  is obtained 40cm from the end  $A$ . When a resistance of  $10\ \Omega$  is connected in series with  $X$ , the null point shifts by 10 cm. Find the position of the null point when the  $10\ \Omega$  resistance is inserted connected in series with resistance  $Y$ . Determine the value of resistance  $X$  and  $Y$ .



43. A potentiometer wire of length 1m is connected to a driver cell of emf 3V as shown in figure. When a cell of 1.5V emf is used in the secondary circuit, the balance point is found to be 60cm. On replacing this cell and using a cell of unknown emf, the balance point shifts to 80cm.
- Calculate unknown emf of the cell.
  - Explain with reason, within the circuit works if the driver cell is replaced with a cell of emf 1 V.
  - Does the high resistance  $R$ , used in the secondary circuit affect the balance point? Justify your answer.

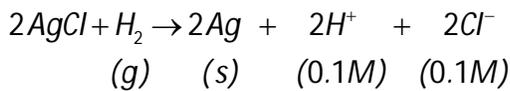


44. Obtain the formula for the power loss i.e power dissipated in a conductor resistance  $R$  carrying a current  $I$ .
45. Two heating elements of resistance  $R_1$  and  $R_2$  when operated at a constant supply of voltage  $V$  consume power  $P_1$  and  $P_2$  respectively. Deduce the expression for the power of their combination when they are, in turn connected in (i) series and (ii) parallel across the same voltage supply.
46. State the condition under which Ohm's Law is not obeyed in conductors.

## Chemistry

- A solution of sucrose (Molar mass =  $342\text{ g mol}^{-1}$ ) has been prepared by dissolving 68.4g of sucrose in one kg of water.  $K_f$  for water is  $1.86\text{ k kg mol}^{-1}$  and v.p of water of 298 k is 0.024 atm. Find the following:
  - vapour pressure of solution of 298k
  - osmotic pressure of the solution at 298 k
  - freezing point of solution
  - if on dissolving the above amount of NaCl in 1kg of water, the freezing point is found to be  $-0.344^\circ\text{C}$ . What is the % dissociation of NaCl in the solution.
- Find the number of moles of  $\text{Na}_2\text{CO}_3$  that should be dissolved in 4 litres of the solution to obtain 1 N  $\text{Na}_2\text{CO}_3$  solution.
- 100 ml of 1 M  $\text{H}_2\text{SO}_4$  are mixed with 200 ml of 8 m HCl. What is the normality of the resulting solution.
- What is the molality of  $\text{H}_2\text{SO}_4$  in water solution. If mole fraction of water is 0.86.
- A 0.1 molal aqueous solution of a weak acid is 30% ionized. If  $K_f$  for water is  $1.86\text{ k kg mol}^{-1}$ . Find the freezing point of the solution.
- Calculate the electrode potential of a copper wire dipped in 0.1 M  $\text{CuSO}_4$  solution at  $25^\circ\text{C}$ . The standard electrode potential of copper is 0.34v.

7. Calculate cell potential at 298 K.  $\text{Sn}^{4+} (1.50 M) + \underset{s}{zn} \rightarrow \underset{(2.0 M)}{\text{Sn}^{2+} (0.50 M)} + \text{zn}^{++}$  given that  $E^\circ \text{Cell} = 0.89 \text{ V}$ .
8. Calculate the potential for half cell containing  $0.10 \text{ M K}_2\text{Cr}_2\text{O}_7$ ,  $0.20 \text{ M Cr}^{3+}$  and  $1.0 \times 10^{-4} \text{ M H}^+$ . The half cell reaction is  $\text{Cr}_2\text{O}_7^{--} + 14\text{H}^+ + 6\text{e}^- \rightarrow 2\text{Cr}^{++} + 7\text{H}_2\text{O}$   $E^\circ \text{Cell} = 1.33 \text{ V}$   
 $\text{aq} \quad \text{aq} \quad \text{aq} \quad \text{l}$
9. Calculate the e.m.f of the cell  $\text{Ni} + 2 \text{Ag}^+ (0.002 \text{ M}) \rightarrow \text{Ni}^{++} (0.16 \text{ M}) + 2 \text{Ag}$   $E^\circ \text{cell} = 1.05 \text{ V}$
10. For the reaction ,



$\Delta G = -43600 \text{ J}$ . Calculate e.m.f

## Biology

- Describe the Mendelian and Chromosomal disorders with their symptoms.
- Explain the structure of polynucleotide chain. Write the salient features of the Double-helix structure of DNA.
- Explain the harshy - chare experiment.

## Math

- Show that the relation R in Set R real. Define as  $R = \{(a, b) : a \leq b^2\}$  is neither reflexive nor symmetric nor transitive.
- Check wheather the relation R in R defined by  $R = \{(a, b) : a \leq b^3\}$  is reflexive symmetric or transitive.
- Show that each of the relation R in set

$A = \{x \in \mathbb{Z} : 0 \leq x \leq 12\}$  given by  $R = \{(a, b) : |a - b| \text{ is a multiple of } 4\}$   $R = \{(a, b) : a = b\}$

4. Find principal values of following: (i)  $\cos^{-1}\left(\frac{-1}{2}\right)$  (ii)  $\tan(-1)$  (iii)  $\sin^{-1}\left(\frac{-1}{2}\right)$

5. Find values of  $\tan^{-1}(1) + \cos^{-1}\left(\frac{-1}{2}\right) + \sin^{-1}\left(\frac{-1}{2}\right)$

6. Prove the following:

(i)  $3 \sin^{-1} x = \sin^{-1}(3x - 4x^3), x \in \left[\frac{-1}{2}, \frac{1}{2}\right]$

(ii)  $3 \cos^{-1} x = \cos^{-1}(4x^3 - 3x), x \in \left[\frac{1}{2}, 1\right]$

(iii)  $\tan^{-1} \frac{2}{11} + \tan^{-1} \frac{7}{24} = \tan^{-1} \left(\frac{1}{2}\right)$

(iv)  $2 \tan^{-1} \frac{1}{2} + \tan^{-1} \frac{1}{7} = \tan^{-1} \frac{31}{17}$

7. Write the following functions in simplest form:

(i)  $\tan^{-1} \left( \frac{\sqrt{1-x^2}-1}{x} \right), x \neq 0$

(ii)  $\tan^{-1} \left( \frac{1}{\sqrt{x^2-1}} \right), |x| > 1$

(iii)  $\tan^{-1} \left( \sqrt{\frac{1-\cos x}{1+\cos x}} \right), x < \pi$

(iv)  $\tan^{-1} \left( \frac{\cos x - \sin x}{\cos x + \sin x} \right), x < \pi$

8. Find values of  $\tan \frac{1}{2} \left[ \sin^{-1} \frac{2x}{1+x^2} + \cos^{-1} \frac{1-y^2}{1+y^2} \right], |x| < 1, y > 0, xy < 1$

9. Find value of  $x$ ,  $\tan^{-1} \frac{x-1}{x-2} + \tan^{-1} \frac{x+1}{x+2} = \frac{\pi}{4}$

10. Find values of expressions : (i)  $\sin^{-1} \left( \sin \frac{2\pi}{3} \right)$  (ii)  $\tan^{-1} \left( \tan \frac{3\pi}{4} \right)$

11. Prove that  $\tan \left( \frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}} \right) = \frac{\pi}{4} - \frac{1}{2} \cos^{-1} x$

12. If a matrix has 24 elements, what are possible orders it can have.

13. Find  $X$  and  $Y$ , (i)  $X + Y = \begin{bmatrix} 7 & 0 \\ 2 & 5 \end{bmatrix}$ ,  $X - Y = \begin{bmatrix} 3 & 0 \\ 0 & 3 \end{bmatrix}$  (ii)  $Y = \begin{bmatrix} 3 & 2 \\ 1 & 4 \end{bmatrix}$  and  $2X + Y = \begin{bmatrix} 1 & 0 \\ -3 & 2 \end{bmatrix}$  Find  $X$ .

14. Find the product  $\begin{bmatrix} 2 & 3 & 4 \\ 3 & 4 & 5 \\ 4 & 5 & 6 \end{bmatrix} \begin{bmatrix} 1 & -3 & 5 \\ 0 & 2 & 4 \\ 3 & 0 & 5 \end{bmatrix}$

15. If  $A = \begin{bmatrix} 0 & -\tan \frac{x}{2} \\ \tan \frac{x}{2} & 0 \end{bmatrix}$  and  $I$  is the identity matrix of order 2, Show that  $I + A = I - A \begin{bmatrix} \cos x - \sin x \\ \sin x \cos x \end{bmatrix}$

16. Express the matrices as the sum of symmetric and skew symmetric matrix  $\begin{bmatrix} 6 & -2 & 2 \\ -2 & 3 & -1 \\ 2 & -1 & 3 \end{bmatrix}$

17. Find  $x$ ,  $\begin{vmatrix} 2 & 3 \\ 4 & 5 \end{vmatrix} = \begin{vmatrix} x & 3 \\ 2x & 5 \end{vmatrix}$

18. Find equation of line joining (1, 2) and (3, 6)

19. Find adjoint of  $\begin{bmatrix} 1 & -1 & 2 \\ 2 & 3 & 5 \\ -2 & 0 & 1 \end{bmatrix}$

20. Find inverse of the following:  $\begin{bmatrix} 1 & 2 & 3 \\ 0 & 2 & 4 \\ 0 & 0 & 5 \end{bmatrix}$

21. Solve the system of linear equation, for  $x$ ,  $y$  and  $z$   
 $2x + 3y + 3z = 5$   
 $x - 2y + z = -4$   
 $3x - y - 2z = 3$