DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2017-18)
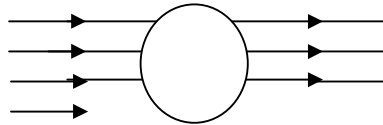
Class:- XII   **Subject:- Physics**
Time- 2 Hrs.   **Maximum Marks:-50**

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General Instructions:-
1. **All question are compulsory.**
2. **Question No. 1 to 3 are very short answer type carry one mark each.**
3. **Question No. 4 to 6 are short answer type carry 2 marks each.**
4. **Question No. 7to15 carry 3 marks each.**
5. **Question No. 16 is value based question carry 4 marks.**
6. **Question No. 17 and 18 carry 5 marks each.**

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1. **Draw a plot showing the variation of electric field (E) with distance (r) due to point charge Q.**

2. **A metallic sphere is placed in a uniform electric field as shown in figure. Which path is followed by the electric field and why?**

3. **In an experiment on meter bridge, if the balancing length AC is X, what would be its value, when the radius of meter bridge wire AB is doubled?**

4. **Two metallic wires of the same material have the same length but cross-sectional area in the ratio 1:2, they are connected**
   (i) in series and
   (ii) in parallel
   Compare the drift velocities of electrons in the two wires in both the cases.

5. **An element$\triangle l = \Delta x$ i is placed at the origin (as shown in figure) and carries a current i = 2A. Find out the magnetic field at a point P on the Y-axis at a distance if 1 m due the element Δx = Wcm. Also give the direction of the field produced.**

6. **Two charges +Q and – Q are kept at $(-x_2, o)$ and (x_1, o) respectively in the X-Y plane. Find the magnitude and direction of the net electric field at the origin (0,0).**

7. **Two concentric circular coils x and y of radii 16 cm and 10 cm respectively lie in the same vertical plane containing the North to South direction. Coil x has 20 turns and carries a current of 16 A , coil y has 25 turns and carries a current of 18 A. The sense of the current in x is anticlockwise and clockwise in the y, for an observed looking at the coils facing west. Find the magnitude and direction of the net magnetic field due to the coils at their centre.**

8. **A parallel plate capacitor is charged by a battery. After sometime, the battery is disconnected and a dielectric slab with its thickness equal to the plate separation is inserted between the plates, How will**
   (i) the capacitance of the capacitor
   (ii) pot. difference between the plates and
   (iii) the energy stored in the capacitor be effected?
      Justify your answer in each case.

9. **Using Kirchoff's rules find the current I_1, I_2, and I_3, in the given circuit**

10. **State Gauss's, theorem and use it to find electric field due to a uniformly charged infinite plane sheet. What is the direction of field for a (i) positive and (ii) negative charge densities on the sheet.**

11. **Draw equipotential surfaces due to a point charge Q>0. Show that the amount of work done in moving a test charge over an equipotential surface is zero.**
    Show that the equipotential surfaces are close together in the region of strong electric field and for apart in the region of weak field.

12. **Define capacitance of a capacitor, A 600 pf capacitor is charged by a 200 v supply. It is then disconnected from the supply and connected to another charged 600 pf capacitor. How much electrostatic energy is lost in the process.**

13. **Draw the circuit diagram of a Wheatstone bridge. Explain briefly how the balance condition for the galvanometer to give null deflection provides a practical method for the determination of an unknown resistance.**

14. **Two cells of emf 2E and E and internal resistances 2r and r respectively, are connected in parallel. Obtain the expression for the equivalent emf and the internal resistance of the combination.**

15. **State the working principle of a meter bridge. What happens if the galvanometer and cell are interchanged at the balance point of the bridge?**
    Why is it considered important to obtain the balance point near the mid point of the wire?

16. **Neeta's grandmother, who was illiterate was wrapping her satin saree. She found same spark coming out from it. She frightened and called Neeta. Neeta calmed down her grandmother and explained to her the scientific reason behind these sparks.**
    Answer the following questions based on the above information:
    (a) What according to you are the value displayed by Neeta?
    (b) Why do sparks appear when a satin cloths is folded?

17. State Gauss's law in electrostatics, using this theorem, deduce the expression for the electric field due to a uniformly charged spherical conducting shell of radius R at
at a point (i) outside   (ii) inside the shell.
Plot a graph showing variation of electric field as a function of r>R and r<R (r being the distance from the centre of the shell).

<center>Or</center>

 What is an electric dipole. Derive an expression for the electric field (E_e) of an electric dipole of length 2a at a point distance r from it centre on the equatorial line.
Draw a graph between E_e and r when r>> a

18. State the working principle of a potentiometer, with the help of circuit diagram explain how a Potentiometer is used to compare the emf of two cells.
Write two possible causes for one sided deflection in a potentiometer experiment.

<center>Or</center>

With the help of circuit diagram explain how you can find the internal resistance of a primary cell by using a potentiometer. Derive the formula used.
Which material is used for potentiometer and why? How can the sensitivity of a potentiometer be increased?

General Instruction:-
1.   All questions are compulsory.
2.   Questions number 1-5 are very short answer questions and carry 1 mark each.
3.   Questions number 6-10 are short answer questions and carry 2 marks each.
4.   Questions number 11-17 are also short answer questions and carry 3 marks each.
5.   Question number 18 is a value based questions and carry 4 marks.
6.   Questions number 19-20 are long answer question and carry 5 marks each.
7.   Use log tables, if necessary. Use of calculators is not allowed.

1. Name the unit cell with the parameters $\alpha = \beta = \gamma = 90^0$ and $a = b \neq c$ [1]

2. Which electrolyte is used for electroplating of silver? [1]

3. Why camphor is often used in molecular mass determination by depression in freezing point ? [1]

4. Why does an alkaline medium inhibit the rusting of iron ? [1]

5. Find the order of a reaction in which doubling the initial concentration of reactant doubles the

    $t \frac{1}{2}$ of the reaction. [1]

6. What would happen when an exothermic reaction with less activation energy is carried and why [2]

7. Why is FeO(s) not formed in stoichiometric composition? [2]

8. When acidulated water (dil.H_2SO_4 Solution) is electrolysed, will the p^H of the solution be affected? Justify your answer. [2]

9. Calculate the temperature at which a solution containing 54g of glucose, $C_6H_{12}O_6$ in 250g of water will freeze. [k_f for water = 1.86kkgmol^{-1}] [2]

10. What change in temperature is expected during the mixing of two liquids whose solution shows a negative deviation from Raoult's Law and why? [2]

11. An element has a body centered cubic structure with a cell edge of 288 pm. . The density of the element is 7.2 gcm^{-3}. Calculate the number of atoms present in 208 g of the element. [3]

12. How can you remove the hard calcium carbonate layer of the egg without damaging it's semi permeable membrane? Can this egg be inserted into bottle of narrow neck without distorting it's shape? Explain the process involved? [3]

13. Define activation energy. What is the effect of (i) temperature and (ii) catalyst on activation energy?

[3]

14. For a reaction A+B $\longrightarrow$ products , the rate law is rate = K [A] [B]$^{1/2}$. Can the reaction be elementary reaction? Give reason.   [3]

15. (i) State a condition under which a bimolecular reaction becomes kinetically first order reaction.

    (ii) 87.5% of a radioactive substance is disintegrated in 45 minutes. What is its half life?   [1+2=3]

16. (i) Under what condition glass changes to quartz?

    (ii) Why is thermal expansion of glass same in all directions while for NaCl it is not so?   [3]

17. (a) What is meant by limiting molar conductivity?   [3]

    (b) How does molar conductivity vary with concentration for weak electrolyte?

    (c) Why is alternating current used for measuring resistance of an electrolytic solution?

18. Ashok and Sumesh were provided with 60 apples of almost same size and also two trays. They were

    asked to arrange them in an ordered manner . Ashok successfully arrange them with a minimum

    empty space whereas sumesh was unable to do so.

    (a) What type of crystal packing did Ashok attempt?

    (b) What was the percentage of space occupied by the apples?

    (c) Name the value associated with the attempt made by Ashok.

    (d) How many tetrahedral and octahedral holes were observed in the packing of apples?   [4]

19. (a) Can a solution of its own have osmotic pressure?

    (b) What will happen when Red blood corpuscles (RBCs) are placed in (i) 1 % Nacl solution and

    (ii) 0.6%   Nacl solution

    (c) When 50ml. of ethanol and 50ml of water are mixed predict whether the volume of the solution
    is more or less than 100 ml or equal to 100 ml ?   [1+2+2=5]

20. (a) Why salt bridge is not used in lead – storage cell?

    (b) Consider the following electrochemical cell:

        Zn /Zn $^{2+}$ (M = ?) // Ag$^+$ (0.1M) / Ag

        (i)   If the emf of the cell is 1.6 volt, what is the concentration of Zn^{2+} provided Ag+
                  concentration does not change?

        (ii)   How will the cell potential be affected if KI is added to Ag+ half cell ?   [2+2+1=5]

DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

QUALIFYING EXAMINATION (2017-18)

Class – XII　　　　　　　　　　　　　　　　　**Subject:- Mathematics**

Time:- 2 Hrs.　　　　　　　　　　　　　　　　　**M.M.- 50**

General Instruction:
1. Attempt all questions.
2. Question paper is comprised of four sections A, B, C and D, in which every question carries ONE mark, TWO marks, FOUR marks and SIX marks respectively.
3. Section A and B carries four questions each, section C carries five questions and section D carries three questions .There is no overall choices in the question , however internal options are given.
4. Use of calculators and electronic gadgets are not permissible during the exam.

Section – A

1. Write the smallest equivalence relation on a set A = $\{1,2,3\}$.
2. Find the value of $\sin^{-1}(\cos\left(\frac{33\pi}{5}\right))$.
3. A binary operation $*$ is defined over $\{a, b\}$. How many such operations are possible there?
4. Find the area of a triangle ABC with vertices $(0,3), (5,0)$ and $(5,3)$.

Section –B

5. If f and g are two real valued real functions which are greatest integer function and modulus function respectively, then evaluate $fog\left(\frac{-3}{2}\right) + gof\left(\frac{4}{3}\right)$.
6. A binary operation $*$ is defined over $\{0,1,2,3,4,5\}$ in such a way that

$$a*b = \begin{cases} a+b, if\ a+b < 6 \\ a+b-6 ,if\ a+b \geq 6 \end{cases}$$. Find a^{-1} with justification.

7. Evaluate, $\tan^{-1}\left(\frac{a-b}{1-ab}\right) + \tan^{-1}\left(\frac{b-c}{1-bc}\right) + \tan^{-1}\left(\frac{c-a}{1-ca}\right), if\ a > b > c > 0.$

8. Express a square matrix A = $\begin{bmatrix} 3 & -2 & -4 \\ 3 & -2 & -5 \\ -1 & 1 & 2 \end{bmatrix}$ as a sum of symmetric and skew symmetric matrix.

Section -C

9. Show that the function $f:R^+ \to [-5,\infty)$ defined as $f(x) = 9x^2 + 6x - 5$ is invertible and hence find f^{-1}.

OR,

Consider a binary operation $*$ defined over R $\times$ R so that $(a, b) * (c, d)$ means $(ac - bd, bc + ad)$.Evaluate the identity element and also find $(a, b)^{-1}$.

10. Evaluate $\sec^2(\tan^{-1} 2) + \csc^2(\cot^{-1} 3)$.

OR,

Simplify, $\sin^{-1}(3x - 4x^3)$, (i) for every $x \in \left[\frac{-1}{2}, \frac{1}{2}\right]$, (ii) for every $x \in \left[\frac{1}{2}, 1\right]$.

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11. For a square matrix A=$\begin{bmatrix} 2 & 0 & 1 \\ 2 & 1 & 3 \\ 1 & -1 & 0 \end{bmatrix}$, there exists a polynomial function $f(x) = x^2 - 5x + 4$.

Find $f(A) = A^2 - 5A + 4I$ and hence using $f(A)$, find A^{-1}.

12. $\begin{vmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \end{vmatrix} = 0$, but $\begin{vmatrix} 1+x & 1 & 1 \\ 1 & 1+y & 1 \\ 1 & 1 & 1+z \end{vmatrix} = \Delta \neq 0$ .So using properties evaluate Δ and hence apply it for evaluation

of the determinant $\begin{vmatrix} 3 & 1 & 1 \\ 1 & 4 & 1 \\ 1 & 1 & 6 \end{vmatrix}$.

13. If the function $f(x) = \begin{cases} 5ax - 2b, & if\ x < 1 \\ 11, & if\ x = 1 \\ 3ax + b, & if\ x > 1 \end{cases}$ is continuous at $x = 1$. Find the value of a and b.

Section – D

14. Let N be the set of Natural number and R is a relation defined on the binary set N × N as follows $(a, b)\ R(c, d) \Leftrightarrow (a + d)bc = ad(b + c)$, where a, b, c and d are natural numbers. Show that R is an Equivalence Relation. If relation corresponds Nationality throughout the Globe. Then supply the corresponding match for an Equivalence class in this regard. What inference can be made for two people from the same nation on the basis of equivalence relationship?

15. Using adjoint of a square matrix method solve the system of simultaneous equations $2x - 3y + 5z = 11, 3x + 2y - 4z = -5$ and $x + y - 2z = -3$.

OR

Using elementary transformation find the inverse of a matrix A=$\begin{bmatrix} 2 & -3 & 5 \\ 3 & 2 & -4 \\ 1 & 1 & -2 \end{bmatrix}$.

16. Supply a function which is continuous at a point but not differentiable at that point and show it mathematically i.e. give its justification.

Class:- XII   **Subject:- Accountancy**
Time- 2 Hrs.   **Maximum Marks:- 50**

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General Instructions:-
1. Answer all the questions.
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1. A and B were partners in a firm sharing profits and losses equally. Their fixed Capitals were Rs. 200000 and 300000 respectively. The partnership deed provided for interest on Capital @ 8% p.a for the year ended 31.03.2017, the profits of the firm were distributed without providing interest on capital. Pass necessary adjustment entry to rectify the error.   [1]

2. Durga and Naresh were partners in a firm. They wanted to admit five more members in the firm. List any two categories of individuals other then minors who cannot be admitted by them.   [1]

3. Distinguish between 'Fixed Capital Account' and 'Fluctuating capital Account' on the basis of credit balance.   [1]

4. A and B were partners in a firm sharing profits and losses in the ratio of 5:3. They admitted C as a new partner. The new profit sharing ratio between A, B and C was 3:2:3. A surrendered $1/5^{th}$ of his share in favour of C. Calculate B's sacrifice.   [1]

5. State the provisions of Indian Partners Act. 1932 regarding interest on partner's Capital and interest on partner's loan when there is no partnership deed.   [1]

6. Kavi, Ravi, Kumar and Guru were partners in a firm sharing profits in the ratio of 3:2:1:1. On 31.03.2017. Guru retired and the new profit sharing ratio decided between Kavi, Ravi and Kumar was 3:1:1. On Guru's retirement the goodwill of the firm was valued at Rs. 350000. Showing your working notes clearly, pass necessary journal entry in the books of the firm for the treatment of goodwill on Guru's retirement .   [3]

7. Vikash and Vivek were partners in a firm sharing profits in the ratio of 3:2 On 01.04.2017 they admitted Vandana as a new partner for $1/8^{th}$ share in the profits with a guaranteed profit of Rs. 150000. The new profit sharing ratio between Vivek and Vikas will remain the same but they decided to bear any deficiency on account of guarantee to Vandana in the ratio 2:3.
The profit of the firm for the year ended 31.03.2017 was Rs 900000. Prepare Profit and Loss Appropriation Account of Vikas, and Vandana for the year ended 31.03.2017.   [3]

8. Madhu and Neha were partners in a firm sharing profits and losses in the ratio of 3:5. Their Fixed capitals were Rs. 400000 and Rs. 600000 respectively. On 01.04.2017, Tina was admitted as a new partner for $1/4^{th}$ share in the profits. Tina acquired her share of profit from Neha. Tina brought Rs. 400000 as her capital which was to be kept fixed like the capitals of Madhu and Neha. Calculate the goodwill of the firm on Tina's admission and the new profit sharing ratio of Madhu, Neha and Tina. Also pass necessary journal entry for the treatment of goodwill on Tina's admission considering that Tina did not bring her share of goodwill premium in cash.   [3]

9. A and B were partners in a firm sharing profits in the ration of 3:2. They admitted C and D as a new partners. The new profit sharing ratio will be 2:2:1:1 C and D brought in Rs. 275000 each for their respective capital and also necessary amount of Premium for good will in cash. Goodwill was valued at Rs. 240000 for the firm calculate the sacrificing ratio of A and B and pass necessary journal entries for the above transactions in the books of the firm. [4]

10. (a) Give journal entry to distribute workmen compensation Reserve of Rs. 70000 at the time of Sajjan's death, when there was a claim of Rs. 25000 against it. The firm has three partners Rajat, Sajjan and Kavita.
    (b) Give journal entry to distribute Investment, Fluctuation fund of Rs. 4000 at the time of Z's death, when investments (market value Rs. 19000) appear at Rs. 20000. The firm has three partners X, Y and Z. [2+2=4]

11. Ram, Rahim and Robert ware partners sharing profits in 2:2:1 ratio respectively. The partnership deed provided that in case of death of a partner the deceased partner's share of. Capital will be donated for the construction of a hospital in the tribal area. Due to ill health Robert dies on 30th September 2016. The Balance sheet of the firm on 31.03.2016 was as follows The Balance sheet of the firm on 31.03.2016 was as follows.

Liabilities	Amount	Assets	Amount
Capitals			
Ram	100000	Cash	14000
Rahim	200000	Bank	296000
Robert	300000	Stock	80000
Creditors	360000	Debtors Investment	300000
Workmen's Compensation	20000	Land	250000
Fund		Investment	50000
Provision for Doubtful Debts	10000		
	990000		990000

On the date of Robert's death, the following was agreed upon:-
(a) Goodwill is to be valued at two year's purchase of average profits of last three completed year i.e. 2010-11 Rs. 45000 2011-12 Rs 90000, 2012-13 Rs. 135000.
(b) Robert's share of Profits till the date of his death will be calculated on the basis of average profits of last 3 years.
(c) Land and Building undervalued by Rs 25000 and stock overvalued by Rs. 8000
(d) Provision for doubtful debts is to be made at 5% on debtors.
(e) Claim for workmen compensation is estimated at Rs. 5000 prepare Robert's capital A/C to be presented to his executors. Also identify a value that the partner's wanted to communicate to the society. [6]

12. X, Y and Z were partners in a firm sharing profits in the ratio of 1:2:3 on 31.03.2017 their Balance Sheet was as follows:-
Balance Sheet of X,Y and Z as on 31.03.2017

Liabilities	Amount Rs.	Assets	Amount Rs.
Creditors	25000	Land	25000
Bills Payable	10000	Buildings	25000
General Reserve	15000	Plant	50000
Capitals		Stock	20000
X 50000		Debtors	15000
Y 25000		Bank	2500

Z 12500	87500		
	137500		137500

X, Y and Z decided to share the profits equally with effect from 01.04.2017. For this it was agreed that:

(a) Goodwill of the firm be valued at Rs 7500

(b) Land be revalued at Rs. 40000 and building be depreciated by 6%

(c) Creditors of Rs. 3000 were not likely to be claimed and hence be written off.

Prepare Revaluation Account Partners' capital Accounts and Balance sheet of the reconstituted firm . **[6]**

13. J.H and K were partners in a firm sharing profits in the ratio of 5:3:2 on 31.03.2017 their Balance sheet was as follows :-

Balance sheet of J. Hand K as on 31.03.2017

Liabilities	Amount	Assets		Amount
Creditors	42000	Land and Building		124000
Investment Fluctuation	20000	Investments		38000
Fund		Motor Van		40000
Profit Loss A/C	80000	Machinery		24000
Capitals		Stock		30000
J	100000	Debtors	80000	
H	80000	Less: Provisions	6000	74000
K	40000	220000	Cash		32000
	362000			362000

On the above date H retired and J and K agreed to continue the business on the following terms:-

(i) Goodwill of the firm was valued Rs. 102000

(ii) There was a claim of Rs. 8000 for workmen's compensation

(iii) Provision for bad debts was to be reduced by Rs. 2000

(iv) He will be paid Rs. 14000 in cash and the balance will be transferred in his loan account

(v) The new profit sharing ratio between J and K will be 3:2

Prepare Revaluation Account, Partner's Capital A/Cs and Balance sheet of the firm. **[8]**

14. L, M and O were partners in a firm sharing profits in the ratio of 3:2:1. Their Balance on 31.03.2017 was as follows: Balance sheet of L,M, and N was as on 31.03.2015

Liabilities	Amount	Assets	Amount
Creditors	168000	Bank	34000
General Reserve	42000	Debtors	46000
Capitals		Stock	220000
L	120000	Investment	60000
M	80000		
N	40000	240000	Furniture	20000
		Machinery	70000
	450000		450000

On the above date O was admitted as a new partner and it was decided that:

(i) The new profit sharing ratio between L, M and O will be 2:2:1:1

(ii) Goodwill of the firm was valued at Rs. 180000 and O brought his share of goodwill premium in cash

(iii) The market value of investment was Rs. 36000

(iv) Machinery will be reduced to Rs. 58000

(v) A creditors of Rs. 6000 was not likely to claim the amount and hence was to be written off.

(vi) O will bring proportionate capital so as to give him 1/6th share in the profits of the firm.

Prepare Revaluation Account Partner's capital Account and the Balance sheet of the new firm. **[8]**

<div align="center">OR</div>

A and B are partner sharing profits in the ratio 3:2. Their sheet on 31.03.2017 was follow

Liabilities		Amount	Assets		Amount
Creditors		66000	Cash at Bank		87000
General Reserve		10000	Debtors	42000	
			Less : Provision	7000	35000
Investment Fluctuation					
Fund		4000	Investment		21000
			(Market price Rs. 1900)		
Capital					
A	11900		Building		98000
B	11200	231000	Plant and Machinery		70000
		311000			311000

C was admitted on that date for 1/6th share on the following terms.

(i) C will bring Rs. 56000 as his capital.

(ii) Goodwill of the firm is valued at Rs. 84000 and C will bring his share of goodwill in cash.

(iii) Plant and machinery be appreciated by 20%

(iv) All debtors are good.

(v) There is a liability of Rs. 9800 included in sundry creditors that is not likely to arise.

(vi) Capital of A and B will be adjusted on the basis of C'S capital and any excess or deficiency will be made by withdrawing or bringing in cash by the concerned partner.

Prepare Revaluation Account, Partner's capital Accounts and Balance sheet of the firm after the above adjustments.

Class – XII   **Subject:- Business Studies**
Time:- 2 Hrs.   **M.M.- 50**

General Instructions:

1.   **All the questions are compulsory.**
2.   **Marks are indicated against each question.**
3.   **Answers to questions should be to the point.**

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1.   **What is the main focus of Management?**   **[1]**

2.   **A manager applies the various theories of Management in his unique personalised way what aspect of Nature of Management does this statement indicate?**   **[1]**

3.   **Which principle of Management suggests that employees should not be moved from their position frequently.**   **[1]**

4.   **" A toy car free with " Kinder Joy" is an example of one of the techniques of sales promotion. Name the technique.**   **[1]**

5.   **" After 1991" the market forces have become turbulent as a result of which the enterprises have to continuously modify their operations" state the impact of government policy changes on business highlighted by the statement.**   **[1]**

6.   **What is transportation Packaging. Explain with example.**   **[1]**

7.   **Explain any three tools / techniques of sales promotion with suitable examples.**   **[3]**

8.   **Explain the Principle of "science not rule of thumb".**   **[3]**

9.   **Differentiate between**
        (a) Principles of Management V/S Technique of Management
        (b) Principle of Management Vs. Values.   **[4]**

10.   **A cloth manufacturer distributes its defective products free of Cost (after getting them repaired from Nari Niketan at lower cost) to an orphanage. Which value are being attested in this solution.**   **[4]**

11.   **The court passed an order that all schools must have water purifier for the school children as**
        (a) Society in general is more concerned about quality of life.
        (b) Innovative techniques are being developed to
        (c) Manufacture water purifier at competitive rates incomes are rising and children at home are also drinking purified water.
        (d) The government is also showing positive attitude towards the water purifier business. Identify the different dimensions of business environment by quoting lines from the above details.   **[4]**

                                                                                    P.T.O

Q.12 Mr. Nitin Singhania's has a good business of Iron and Steel. He wants to go to USA for his M.B.A but his father wants that he should join the business on the basis of emerging trends do you think Mr. Singhania should send his son to USA. Give any three reasons in support in support of your answer. **[4]**

Q.13 Differentiate between
(a) Product concept and production concept
(b) Selling concept and Societal Marketing Concept. **[4]**

Q.14 B Ltd. wants to modify its existing products CD players in the market due to decreasing sales. What decisions / Steps should each level of Management take to give effect to this decision in context to the above statement. **[6]**

Q.15 **(i)** Identify and enumerate the technique of scientific management; which are described by the statement given below

(a) When many specialist supervise each worker.
(b) When uniformity is introduced in materials, machine tools, methods of work of work and working condition after due research.
(c) To determine standard time taken to perform a well defined job.
(d) Giving Variable wages to workers based on their performance.
(e) Changes in the attitude of worker and management towards. One another from competition to co-operation.
(f) To fine out one best way to do the job. **[6x½=3]**

(ii) Explain principle of scalar chain and subordination of individual interest to general interest. **[3]**

Q.16 (a) Explain the various terms related to Branding
(b) Explain factors determining choice of channels of distribution. (Any three) **[3+3=6]**

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2017-18)

Class – XII   **Subject:- Economics**
Time:- 2 Hrs.   **M.M.- 50**

General Instructions:

1. Question number 1 to 3 and 9 to 11 are very short questions or MCQ. They should be answered in one sentence.
2. Question number 4,5,12 and 13 are short answer questions. They should be answered in 60 words
    each. Each question carries 3 marks.
3. Questions number and 6 and 14 are also short questions carrying 4 marks each. They should be normally answered in 70 words each.
4. 7,8,15 and 16 are long answer questions carrying 6 marks each. They should be answered in 100 words each.
5. Marks of each question is indicated against it.
6. All parts of a question should be answered in one place.
7. Word limit is not applicable for numerical problems.

Section- A

1. Cardinality 'means utility can be   [1]
    (a) Ranked ;   (b) measured;   (c) not measured   (d) none of these

2. The total utility derived by Rani by eating 6 apples is 300 utils. Marginal utility of the
    7th apple is 30 utils. The total utility for 7 apples will be _____ utils.   [1]
    (a) 300   (b) 330   (c) 270   (d) 30

3. All except one of the following are assumed to remain same while drawing an individual's
    demand curve for a product. While one is it?   [1]
    (a) Tates and preferences of the individual
    (b) Monetary income
    (c) Price of the given product
    (d) Price of related goods

4. Given the market price of a good, how does a consumer decide as to how many units of that
    good to buy?   [3]
    ### OR
    A consumer consumes only two goods X and Y. At certain level of consumption of these two
    goods, he finds that the ratio of MU to the price of X is higher than in case of Y. Explain
    the reaction of the consumer.

5. Differentiate between "decrease in demand" and "decrease in quality demanded" of a
    commodity.   [3]

6. Discuss the shape of the production possibility curve through a schedule and diagram.   [4]

7. **What is the impact of the following on the demand curve for good X? Give reasons.**
   (a) Consumer's income falls and good X is a normal good
   (b) Consumer's income falls and good X is a inferior good
   (c) Price of complementary good Y rises
   (d) Price of substitute good Y falls [6]

   OR

   Briefly discuss the various situations for positive relationship between price and quantity demanded.

8. A consumer consumes only two goods. For the consumer to be in equilibrium, why must marginal rate of substitution between the two goods must be equal to the ratio of prices of these two goods. Is it enough to ensure equilibrium? [6]

Section- B

9. **In the production phase of the circular flow of income , the income are:** [1]
   (a) Created   (b) Distributed   (c) Spent   (d) accumulated

10. **Value added is** [1]
    (a) Sale price minus purchase price
    (b) Sales plus stocks minus purchase
    (c) Sales plus net charge in stock minus intermediate costs.
    (d) Value of output minus purchases

11. What is legal reserve ratio? [1]

12. State any three function of money. Also mention the corresponding problem of the barter system. [3]

13. Will the following be included in the domestic product of India? Give reasons for your answer.

    (a) Profit earned by foreign companies in India.

    (b) Salaries of Indians workers in the Russian embassy in India

    (c) Profit earned by a branch of state bank of India in Japan [3]

    OR

    Which of the following items is part of compensation of employees? Give reasons for your answer.

    (a) Entertainment allowances to an employee to entertain business guests.

    (b) Payment of claim of insurance claim by LIC to the injured worker.

    (c) Medical expenses of a firm on treatment of employee's family.

14. Differentiate between intermediate and final good. Also explain the basis of classifying these with the help of an suitable example. [2+2=4]

15. (a) Differentiate between fiat money and fiduciary money.
    (b) Give the meaning of money supply. State its components. [3+2+1=6]

    OR

    What are the open market operation? How does these affect availability of credit? [1+5=6]

16. Calculate GNP$_{Fe}$ from the following by (a) Income method, (b) Expenditure method   **[6]**

1.	Wages and Salaries	800
2.	Mixed income of self employed	160
3.	Operating surplus	600
4.	Undistributed profit	150
5.	Gross capital formation	330
6.	Change in stocks	25
7.	Employer's contribution to social security scheme	100
8.	Net factor income from abroad	(-) 20
9.	Net import	(-) 30
10.	Private final consumption expenditure	(1,000)
11.	Net Capital Formation	300
12.	Government final consumption expenditure	450
13.	Net indirect tax	60
14.	Compensation of employees paid by the govt.	75

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2017-18)

Class:- XII   **Subject:- Fine Art-Graphics**
Time- 2 Hrs.   **Maximum Marks:- 50**
_____

General Instructions:-
1. **Answer all the questions.**
2. **Each question is of equal marks.**
_____

Q.1   Write an essay on the origin & development of the Rajasthani or Pahari school
      of miniature painting.   5

Q.2   Why do you like or dislike miniature paintings of Rajasthani or Pahari school included in your
      course of study? Give your appropriate reasons on the basis of the aesthetic parameters.   5

Q.3   What is miniature painting? Write in detail about its method, material, size, technique,
      subject, purpose etc.   5

Q.4   Write a short note about Pal, Jain and Central Indian paintings.   5

Q.5   Which human life values are expressed in any of the following miniature paintings? Explain.   5
      a) Bharat meets Rama at Chitrakuta
      b) Nand Yashoda & Krishna with Kinsmen going to Vrindavana

Q.6   How far has the painter been successful in depicting the subject matter of any of the following
      paintings? Describe its compositional arrangement.   5
      a) Cosmic Dance of Shiva
      b) Krishna on Swing

Q.7   Appreciate the painting 'Radha (Bani Thani)' duly based on its (a) Name of the painter
      (b) Medium and technique used (c) Subject matter and (d) Composition.   5

Q.8   Mention the name of the Sub school of each of the following miniature paintings included
      in your course of study: 5
      1) Maru Ragini
      2) Raja Aniruddha Singh Hara
      3) Chaugan Player
      4) Krishna with Gopis
      5) Radha & Krishna looking into a Mirror

Q.9   Mention the names of any five painters and their paintings, of the Rajasthani and Pahari
      School of miniature painting included in your case of study.   5

Q.10 Fill in the blanks:-   5
      1) The famous manuscript 'Pragyaparmita' is related with _____ and
          'Kalakacharya' is related with _____ religion.
      2) Miniature paintings based on different months is called _____ .
      3) In India few miniature paintings were done on music theme is called _____ .
      4) In Indian paintings 'Radha & Krishna' are symbolised as _____ & _____ .
      5) Pahari paintings were painted on handmade paper called_____ .

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2017-18)

Class – XII   Subject:- Physical Education
Time:- 2 Hrs.   M.M.- 50

General Instructions:

1.   The question paper consists of 20 question in all.
2.   All questions are compulsory.
3.   Answer to questions carrying 1 mark should be in approximately 20-30 words.
4.   Answer to questions carrying 3 marks should be in approximately 80-90 words.
5.   Answer to questions carrying 5 marks should be in approximately 150-200 words.

Q.1   Define round robin tournament.   [1]

Q.2   Name the type of exercise in which the length of muscle is constant.   [1]

Q.3   Why league tournament is expensive as compare to knock-out? Give one reason.   [1]

Q.4   Suggest one precaution to avoid knock knee?   [1]

Q.5   Define continuous training method.   [1]

Q.6   What do you mean by extramural?   [1]

Q.7   Define correct posture.   [1]

Q.8   What do you mean by tournament?   [1]

Q.9   Mention two corrective exercised related to flat foot.   [1]

Q.10   Define strength and explain the types of strength.   [3]

Q.11   Explain the advantages of correct posture.   [3]

Q.12   What are the procedure of giving bye?   [3]

Q.13   Explain the meaning, causes and remedies of knock knee.   [3]

Q.14   Explain the various methods of improving speed.   [3]

Q.15   Draw the league fixture of 7 teams by using cyclic method.   [3]

Q.16   Ramesh was a very intelligent student of our class but he was having a problem of kyphosis which is one of the major deformities of spine. Most of the students used to laugh at him and passed indecent comments on him. Qwing to that , he remained under tension and stress. One day, our teacher came to know about his problem. He rebuked the children for their misdeeds and
suggested them not to repeat such things in future. He advised Ramesh to take some corrective exercise for correcting the deformity of kyphosis. After performing corrective exercise for some months, he has got rid of kyphosis.

On the basis of the above passage, answer the following question. [3]

(a) Comment upon the disqualifies of most of the students of the class.

(b) Discuss the value possessed by the teacher.

(c) Mention some corrective exercises for remedy from kyphosis.

Q.17 Weight training is one of the oldest methods for development of strength. What are its advantages and disadvantage? [5]

Q.18 Discuss the physical exercises as corrective measures for the deformities' of spinal curvature. [5]

Q.19 Define endurance and discuss any two methods of improving endurance. [5]

Q.20 What do you means by specific sports programs? Explain about health run and run for unity in detail. [5]

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2017-18)

Class – XII   **Subject:- Engineering Graphics**
Time:- 2 Hrs.   **M.M.- 50**

General Instructions:

Attempt all the questions. Use both sides of the drawing sheet , if necessary. All dimensions are in Millimeters. Missing and mismatching dimensions if any may be suitably assumed. Follow the SP: 46-2003 revised codes (with first angle method of projections). In no. view of question 2 , hidden edges or lines are required. In question 3, hidden edges or lines are to be shown in views without section

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Q.1   Answer the following multiple choice questions. Print the correct choice on your drawing sheets.   **[1x5=5]**

(i)   When two different parts are sectioned, there section lines are in
         (a) Different direction   (b) Same direction   (c) None
(ii) The head shape of a 'Hook bolt' looks like which of the following alphabets?
         (a) K   (b) T   (c) J   (d) None
(iii) Which drawing the isometric projections of circle it appears as
         (a) Parabola   (b) Ellipse   (c) Circle   (d) None
(iv) Hatching lines are inclined at an angle of
         (a) 54°   (b) 75°   (c) 30°   (d) 45°
(v)   Isometric view are drawn using by
         (a) Main Scale   (b) Isometric Scale   (c) Scale 1:1   (d) None

Q.2   **(a) Construct an isometric scale of 90 mm length**   **[4]**

**(b) A frustum of cone of base diameter 50 mm   , top diameter 30 mm, height of the axis
60 mm. It is resting on the ground of it's base. Axis is perpendicular to the H.P. Draw the
Isometric projections. Give all the dimensions. Show the direction from viewing.**   **[6]**

**(c) A hexagonal prism of base side 30 mm, height 50 mm. Base side parallel to V.P. It is resting
on the ground of it's base. Axis is perpendicular to the H.P. A hemisphere of
40 mm diameter is centrally placed on the top of hexagonal prism. Common axis is vertical.
Draw the Isometricprojections. Give all the dimensions. Show the direction from
viewing.**   **[10]**

Q.3   Fig:- I, Show the details of parts of 'Gib and Cotter-joint'. Assemble these parts correctly and then draw the following views using scale 1:1,

(a) Front view lower half in section
(b) Side view looking from left   **[12+8+5=25]**
Print the title and the scale used. Draw the projection symbol. Give 8 important dimensions.

Class – XII   **Subject:- Entrepreneurship**

Time:- 2 Hrs.   **M.M.- 50**

General Instructions:-
1. All the questions are compulsory.
2. Marks are indicated against each questions.
3. Answer to questions caring 1 mark may be from one word to one sentence.
4. Answer to questions carrying 2 marks should not exceed 50 words.
5. Answer to questions carrying 3 mark should not exceed 75 words.
6. Answer to question carrying 4 marks should not exceed 150 words.
7. Answer to questions carrying 6 marks should not exceed 250 words.

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1. Distinguish between 'Joint Stock Company and Joint Hindu Family Business on the basis of liability of members. [1]

2. What do you mean by TAN? [1]

3. Identify and name the analysis that help the Entrepreneur to monitor the environment. [1]

4. Saurabh wants to starts a new business. He is not sure of the type of Business he should start. His friend suggested him to seek the help of professionals. He contacted a professional who asked Saurabh to pay a big amount for providing the reports and industry updates. Therefore he decided to search for the reports and industry updates himself. He scanned the relevant information from various national and international websites.

   Identify and state the way that Saurabh is using for spotting the Trend.
   Also state one more way which will help Saurabh in starting his business. [2]

5. Ashok is engaged in the production of readymade garments using cotton cloth. Identify the business activity in which Ashok is involved. Also name and define the utility created by Ashok. [2]

6. "Problem give rise to opportunities". Comment on this statement. Give one example. [2]

7. State the first three steps of in the process of 'Creativity'. [3]

8. Kareem after completing his class XII from his village school joined the course of electrician in an ITI in a town near his village. On completion of this course, he tried for a government job but could not get the same. He therefore, decided to work as a helper to a renowned electrician of the area. After working with him for 2 years , he decided to start his own electrician shop in the village. For this, he purchased equipments of Rs. 10,000 and hired a shop at a monthly rest of Rs. 2,000. He himself managed the shop. [3]
   (i) Identify the kind of business orgainsation set up by Kareem.
   (ii) State any four characteristics of the identified form of business orgainsation in
       part (i) above.

P.T.O

9. What are the consequences of a non-registered partnership firm? [3]

10. "PAN acts as an identifier for the 'person' with the tax department". Do you agree? If yes Mention clearly that who all must have PAN? [4]

11. Differentiate between economic activates and non- economic activities. [4]

12. Explain 'ability to perceive and pressure basic ideas' as an import factor while sensing opportunities. [4]

13. Abhijit Chaudhry is into the business of marketing low-cost Diesel Cars in Germany. He is earning good profits and ambitiously considering overseas expansion. He scans the environment for finding out the opportunities and threats that may influence his current and future plans. He zeros down in India as a potential place for his business expansion as Indian government has
announced favorable Trade regulation. On selling the first lot of Cars in India the Indian government noticed that the emissions from these cars were above the permissible limit. The government asked him to make necessary modification in his Cars if he wanted to continue business in India. He readily agreed to meet the emission norms set by Indian government.

    (a) Quoting the lines from the above para Identify any two environmental factors and also explain them.
    (b) Also, state any two values which Abhiraj chaudhry tried to communicate to the Indian Society. [4]

14. State the features that an entrepreneur has to take into consideration while assessing the market. [4]

15. Nishant had just completed his B.Tech and want s to start his own business. He knew that the demand of electricity in India was increasing day by day, Whereas its generation was not sufficient. Nishant shared his view with some of his electricity generation.
    They experimented various methods and ultimately succeeded in electricity generation through garbage. They all were very happy as India is also facing the problem of garbage disposal.
    (i) Identify and explain the source of 'Idea-field' from where the Idea had been generated by Nishant and his friends.
    (ii) Also explain two other sources of Idea-fields with the help of examples. [6]

16. (a) What do you mean by co-operative organization? Explain any three features of it.
    (b) 'No doubt co-operative organisation are beneficial to the society but entrepreneurs do not find this form of organization a very desirable structure to start a new venture' .
       Do you agree ? Give any four reasons. [6]

DELHI PUBLIC SCHOOL
SAIL TOWNSHIP, RANCHI
QUALIFYING EXAMINATION (2018-19)

Class:-XII **Subject:- English**

Time- 2 Hrs. **M.M.- 50**

Section-A (Reading) [18]

Q1. **Read the following passage carefully.** **[10]**

1. We often make all things around us the way we want them. Even during our pilgrimages we have begun to look for whatever makes our heart happy, gives comfort to your body and peace to the mind. It is as if external solutions will fulfil our needs, and we do not want to make any special efforts even in our spiritual search. Our mind is resourceful – it works to find shortcuts in simple and easy ways.

2. Even pilgrimages have been converted into tourism opportunities. Instead, we must awaken our conscience and souls and understand the truth. Let us not tamper with either our own nature or that of the Supreme.

3. All our cleverness is rendered ineffective when nature does a dance of destruction. Its fury can and will wash away all imperfections. Indian culture, based on Vedic treatises, assists in human evolution, but we are now using our entire energy in distorting these traditions according to our convenience instead of making efforts to make ourselves worthy of them.

4. The irony is that humans are not even aware of the complacent attitude they have allowed themselves to sink to. Nature is everyone's Amma and her fierce blows will sooner or spiritual significance were rituals that were undertaken when people became free from their worldly duties. Even now some seekers take up this pious religious journey as a path to peace and knowledge. Anyone travelling with this attitude feels and travels with only a few essential items that his body can carry. Pilgrims traditionally travelled light, on foot, eating light, dried chickpeas and fruits, or whatever was available. Pilgrims of olden days did not feel the need to stay in special AC bedrooms, or travel by luxury cars or indulge themselves with delicious food and savouries.

5. Pilgrims traditionally moved ahead, creating a feeling of belonging towards all, conveying a message of brotherhood among all they came across whether in small caves, ashrams or local settlements. They received the blessings and congregations of yogis and mahatmas in return while conducting the dharma of their pilgrimage. A pilgrimage is like penance or sadhana to stay near nature and to experience a feeling of oneness with it, to keep the body healthy and fulfilled with the amount of food, while seeking freedom from attachments and yet remaining happy while staying away from relatives and associates.

6. This is how a pilgrimage should be rather than making it like a picnic by taking a large group along and living in comfort, packing in entertainment, and tampering with environment. What is worse is giving a boost to the ego of having had a special darshan. Now alms are distributed, charity done while they brag about their spiritual experiences!

7. We must embark on our spiritual journey by first understanding the grace and significance of a pilgrimages and following it up with the prescribed rules and rituals this is what translates into

the ultimate and beautiful medium of spiritual evolutions. There is no justification for tampering with nature.

8. A pilgrimage is symbolic of contemplation and mediation and acceptance, and is a metaphor for the constant growth or movement and love for nature that we should hold in our hearts.

9. This is the truth!

I. On the basis of your understanding of the passage, answer the following questions by choosing the most appropriate option.   [1x2=2]

(a) How can a pilgrim keep his body healthy?

    (i) By travelling light   (ii) By eating small amount of food

    (iii) By keeping free from attachments   (iv) Both (i) and (ii)

(b) How do we satisfy our ego?

    (i) By having a special darshan   (ii) By distributing alms

    (iii) By treating it like a picnic   (iv) Both (i) and (ii)

II. Answer the following questions as briefly as possible.   [1x6=6]

(a) What change has taken place in our attitude towards pilgrimages?

(b) What happens when pilgrimages are turned into picnics?

(c) Why are we complacent in our spiritual efforts?

(d) How does nature respond when we try to be clever with it?

(e) In olden days with what attitude did people go on a pilgrimage?

(f) What message does the passage convey to the pilgrims?

III. Find words from the passage which are similar in meaning to the following.   [1x2=2]

(a) made/turned (para-3)   (b) very satisfied (para 4)

Q.2 Read the following passage carefully.   [8]

More than a century ago, some countries had no police force. Local leaders devised their own methods of ensuring that their orders were carried out and fulfilled. The offender was not given a second chance to repeat his mistake for he was either killed or hunted out of the district.

In England the modern police force grew largely from an unofficial body gathered together by a London magistrate. He found that it was practically impossible to apprehend any of the criminals in his area unless be deployed some men secretly to detect and hunt the culprits.

These unofficial constables had to patrol one large district. They looked upon their position largely as an honorary one and had very little power. Worse still they were sometimes corrupt men themselves for they would conveniently look the other way round in times of trouble, like theft, Hooliganism and vandalism.

Magistrate fielding enrolled a few men whom he could explicitly trust and employed them to catch the thieves and other undesirable persons. The majority of the people resented what they thought was a threat to their liberties, intrusion on their privacies and above all spying on them. They maintained they should have every right to drink themselves to death with any form of alcohol, as so many of them did. They thought too that they should be allowed to quarrel, to fight and even kill amongst themselves. The situation was made worse by the fact that the penalties for offences were very heavy in those days and man could be changed for the theft of some unimportant thing. Arrest by the magistrate's men could bring disastrous results.

Contrary to general feeling, the authorities gradually admitted that these early policemen were vitally necessary, after much discussion, argument and persuasion, the government secretly agreed to re-imburse the magistrate for the men he employed. This step was not made public lest it should be thought that the government was planting spies amidst its people. Eventually the public came to look upon the police with a more friendly spirit the streets by day and even by night without fear of robbery and other acts of violence. Hitherto, the people were free to do practically anything-good

or bad, irrespective of the possible consequences, as the police force built up. The people gave up their freedom to commit evil deeds so that they might have a greater freedom to do good so as to enable one and all to enjoy life peacefully and harmoniously.

A. On the basis of your reading of the above passage make notes on it. Using headings and sub- headings.

Use recognizable abbreviations (wherever necessary – minimum four) and a format you consider suitable. Also supply an appropriate title to it. **[5]**

B. Write a summary of the passage in about 80 words. **[3]**

Section-B (Writing Skills) **[16]**

Q.3 You feel concerned about the rising disregard for good manners among children.
Often they use abusive language in public. Write a letter to the Editor of a national daily expressing your concern and also suggest how to spread awareness about the importance of good manners. You are Pratik/Ritika of M-50, Vikash Puri Delhi. **[6]**

OR

You are Mr. K.L Sarren, You have seen an advertisement in the Hindustan Times for the post of marketing manager. Write an application with complete biodata.

Q.4. These days young boys and girls are attracted towards hefty pay packages offered by multinational companies especially in the call-centres. But the same has created a health hazard for these ambitious children as they are prone to obesity, blood pressure heart problems and above all exposed to high levels of stress! As Namit/Namita write an article on such hazards in about 150-200 words. **[10]**

OR

Write an article in 150-200 words on how we can make India a carefree and enjoyable place for women where they can go wherever they like to go without any fear of being stared at, molested or discriminated against. You are Navtej/ Navita.

Section-C (Literature) **[16]**
Text Books and Long Reading Text

Q.5. Read the extract given below and answer the questions that follow: **[1x4=4]**

Looked out at young
Trees Sprinting, the merry children spilling
out of their homes, but after the airport's
security check , standing a few yards away,
I looked again at her, wan, pale
as a late winter's moon and felt that
old familiar ache.

(a) How can the trees sprint?
(b) Why did the poet look at her mother again?
(c) What did she observe?
(d) Identify the figure of speech used in these lines.

OR

On their slag heap, these children
wear skins peeped though by bones and
spectacles of steel
with mended glass, like bottle bits on stones.

(a) Who are these children? **[1]**
(b) What is their slag heap? **[1]**
(c) Why are their bones peeping through their skins? **[1]**
(d) What does 'with mended glass' mean? **[1]**

Q.6. Answer any two of the following questions in 30-40 words each. **[3x2=6]**

(a) "What a thunderclap these words were to me." (Franz) What were those words and what was their effect on franz?
(b) Garbage to them is gold. Why does the author say so about the ragpicker?
(c) Why was the Maharaja anxious to kill the hundredth tiger?

Q.7. Within a few days of his arrival in Iping people became suspicious of him. Why? (120-150 words) **[6]**