



DELHI PUBLIC SCHOOL

SAIL TOWNSHIP, RANCHI

PRE- BOARD-I EXAMINATION (2017-18)

Class:-XII
Time- 3 Hrs.

Subject:- Entrepreneurship
M.M.-70

General Instructions:-

1. All questions are compulsory.
2. There are 24 questions in all.
3. Marks for each question are indicated against it.
4. Questions No.1 to 5 are very short answer type questions, carrying 1 mark each.
5. Questions No.6 to 10 are short type questions, carrying 2 marks each.
6. Questions No.11 to 17 are Long answer – I type questions, carrying 3 marks each.
7. Questions No. 18 to 21 are Long answer –II type questions, carrying 4 marks each.
8. Questions No.22 to 24 are Essay type questions, carrying 6 marks each.
9. Answers should be brief and to the point.

1. Deepak Ltd., has been manufacturing Motor Cycles since 2010. Their market share in this field is 35%. They decided to introduce new Motor Cycles with advanced gear systems in 2015. For the same they estimated their financial requirements to be Rs. 20crores. They decided to raise the same through a limited number of sophisticated investors. Identify this kind of issue. [1]
2. Name any two state level specialized financial institutions. [1]
3. How is 'unit of sale' determined in a restaurant providing dinner? [1]
4. Name the two things that are taken care in a reorder point. [1]
5. 'For a viable venture to be born, an entrepreneur is required to apply his knowledge, skill, competencies and creativity strategically to market'. Identify the requirement to be complied with by these factors for successful processing of an idea into an opportunity. [1]
6. An entrepreneur has decided to open a retail outlet to sell fast food items like Pizza, Noodles etc., in the rural areas. Do you think his decision is correct? Give any one reason identifying the environmental factor helpful in taking this decision. [2]
7. List any four advantages of Employees Stock Option Plan. [2]
8. Rahul wants to start an amusement park near Vishakhapatnam. This will require an investment of Rs. 1 crore. Name the financial institution which Rahul should approach for financing this venture and state any one function of the same. [2]
9. A stationery shop sells 30,000 pens per year. Purchase cost is Rs. 2 per pen, holding cost is 20% of the purchase cost, ordering cost is Rs. 15.
Calculate EOQ from the details of stationery shop. [2]

10. 'Toto - T Mobiles' is a famous brand of mobile phones. Its target customers are students and professionals who require specialized features in mobiles. This time the company developed a small sized wireless mobile charger which is more convenient to use than the regular charger. This charger is made of recycled material and consumes very less electricity. Identify the two types of added values from the above mentioned paragraph and explain the same in brief. [2]

11. Vineet, Vipul and Virad were good friends. Each had property of Rs. 5 lakhs, Rs. 4 lakhs and Rs. 6 lakhs, respectively. They started a business of exporting ready made garments in the name of V3 Friends and decided to share profits equally. They were earning good profits and thus decided to diversify their business. For this they took a loan of Rs. 10 lakhs from 'Vishad Finance Ltd.' Suddenly they incurred heavy losses in their business and was not in a position to repay the loan. 'Vishad Finance Ltd.' filed a case against V3 Friends. Before the decision of the court Virad transferred his share in the name of his son- 'Kavi' without the consent of Vineet and Vipul. The court ordered to recover the loan amount from the private property of Vineet, Vipul and Virad.

(1) Name the form of business organization run by Vineet, Vipul and Virad.

(2) Identify and explain the two characteristics highlighted in the above paragraph of the identified business organization. [3]

12. How does Negotiation help a business organization? State any three points of its role. [3]

13. The largest chocolate manufacturer 'Cadibo' in India merged with well known potato chips manufacturer 'Best-Chips'. To impact a distinct identity to the merged company they decided to re-design their 'Logo' for their new brand 'Cadibo =Best-Chips'.

(i) Identify and explain 'the type of merger' discussed above

(ii) State one more type of merger in addition to the one identified in part (i) above. [3]

14. A factory is engaged in manufacturing shirts. The following information is available to you.

Sales	Rs. 4,00,000
Direct labour cost (2,000 units)	Rs. 40,000
Direct material cost (2,000 units)	Rs. 1,00,000
Direct expenses (2,000 units)	Rs. 20,000
Fixed cost	Rs. 1,20,000

Find out:-

(a) Variable cost per unit

(b) Total cost

(c) Quantity to be sold at Break - Even Point. [3]

15. What do you mean by Budget? List any four common functional budgets. [3]

16. In 2015 Jaya Ltd. started a toy manufacturing unit using robot technology. The toys manufactured by the company became popular amongst children. But since the cost of the toys was high, the company could not earn good profit. The business is of high risk along with higher expected returns. The company wants to increase production so that they can reduce cost per unit. For this the company wants additional investment of Rs. 50 lakhs. The company approached Ashok who has just retired from Indian Space Research Organisation and who is an influential person.
- Ashok agreed to give the loan to the company provided that his loan is converted into equity shares after two years. The company agreed to Ashok's proposal.
- (a) What type of investor is Ashok?
- (b) State any two features of the same, quoting the suitable lines from the above paragraph. [3]
17. Sita Ram, an orange grower from Nagpur, wants to start a small juice producing factory using the oranges grown by him as well as by his fellow villagers. Name the financial institution he should contact for starting his factory and give any two objectives of the same. [3]
18. Explain 'Ability to harness different sources of knowledge and information' and 'Vision and Creativity' as important factors involved in the process of sensing opportunities. [4]
19. Rajrshwari an entrepreneur, wants to start an industry for groundnut oil in Kathiawar (Gujarat), where less employment opportunities are available. She wants to fix a very low and reasonable price for this as compared to her competitors. She investigated that other oil factories are either making soya oil or sunflower oil which are not in much demand by the customers of this area as they cannot afford to buy these oils. For this she prepares a comprehensive business plan that encompasses the entire range of activities being planned in the business.
- (i) Identify the plan and explain why this is needed by an entrepreneur.
- (ii) State any two values which Rajeshwari wants to communicate to the society by setting up this oil unit. [4]
20. 'A cash flow statement determines the financial health of a business'. Do you agree with the given statement? Justify your answer explaining any four points of importance of the same. [4]
21. A grocery store sold in a day different quantity of different products at the prices indicated against them.

PRODUCTS	PRICE PER UNIT (RS)	QUANTITY SOLD
DAL	40 per kg	35 kgs
CHILLI POWDER	40 per kg	10 kgs
SALT	5 per packet	05 packets
CHIPS	15 per packet	10 packets
JUICE PACK	5 per packet	05 packets

The shop keeper also found based on the number of bills issued by him, there were 50 customers. If customer is the unit of sale, what is the “unit price” in the above case? If the cost of each grocery item is 75% of its selling price, calculate the ‘unit cost’ and the ‘gross margin’ per unit of sale. [4]

22. Kumar has completed his senior secondary examination from Central Board of Secondary Education. After the report had been declared his father asked him what he would like to do in the future. Kumar was undecided and did not answer. His father advised him to start his own business and to pursue his studies through distance learning mode. Kumar reluctantly agreed. He entered into a partnership agreement with one of his school friends, Gurmeet. They decided to start a business of cold drinks with traditional Mughlai Aroma in a fashionable crowded street of Bengaluru. Kumar and Gurmeet each invested Rs. 10,00,000 as their respective capitals. They wanted to earn good profits. As they were new to the business they did not finalise deadlines for different activities as well as the quantity of different drinks, Aroma wise. Because of the novelty of their product their sales increased on daily basis. Ultimately a stage arose when they required to expand their business. For this they did not take any timely action. Gurmeet advised to open another branch in a remote area without looking at the relevance of the place regarding the approach to the branch. Kumar was undecided. They approached Kumar’s father for advice. He advised them that their activities ought to be specific, measurable, attainable, relevant and time based.

- (a) Identify the concept about which Kumar’s father advised them.
- (b) State the Importance of the concept identified in (a) above.
- (c) Also state the three rules that may be followed in the implementation of the concept. [6]

23. Karan has started a restaurant on a National Highway in the name of ‘Apna Dhaba’ by spending Rs. 20,00,000. He invested Rs. 8,00,000 of his own and took a loan of Rs. 12,00,000 from SBI @ 6% per annum. His monthly Sales Revenue is Rs. 12,00,000 and monthly cost of goods sold is Rs. 7,00,000. He pays monthly salary of Rs. 2,00,000 to his employees. The tax rate is 25%.

You are required to calculate:-

- (a) Return on Investment and
- (b) Return on Equity of Karan [6]

24. To regulate and supervise the securities market in India, A Statutory Body was constituted in 1998 under a resolution of the Government of India.

- (i) Identify the Statutory Body.
- (ii) Give any four powers of the Statutory Body identified in (i) above.
- (iii) State any one value which the Statutory Body identified in (i) above tries to inculcate among the members of the securities market. [6]



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PRE- BOARD-I EXAMINATION (2017-18)

Class:-XII
Time- 3 Hrs.

Subject:- Mathematics
M.M.-100

General Instructions:-

1. All questions are compulsory.
2. This question paper contains 29 questions.
3. Question 1-4 in section A are very short answer type questions carrying 1 mark each.
4. Questions 5-12 in section B are short answer type questions carrying 2 marks each.
5. Questions 13-23 in section C are long answer I type questions carrying 4 marks each.
6. Questions 24-29 in section D are long answer II type questions carrying 6 marks each.

Section-A

- Q.1 Show that $3 \sin^{-1} x = \sin^{-1}(3x - 4x^3)$, $x \in \left[-\frac{1}{2}, \frac{1}{2}\right]$
- Q.2 Find the inverse of the matrix $\begin{bmatrix} 2 & -2 \\ 4 & 3 \end{bmatrix}$
- Q.3 Find the integrating factor of the differential equation $\left(\frac{e^{-2\sqrt{x}}}{\sqrt{x}} - \frac{y}{\sqrt{x}}\right) \frac{dx}{dy} = 1$
- Q.4 Find the magnitude of \vec{a} given by $\vec{a} = (\hat{i} + 3\hat{j} - 2\hat{k}) \times (-\hat{i} + 3\hat{k})$

Section-B

- Q.5 Let $f : [0,1] \rightarrow [0,1]$ be defined by
 $f(x) = x$, if x is rational
 $1-x$, if x is irrational, then find $f \circ f(x)$
- Q.6 Examine the consistency of the system of equations:
 $x+y+z = 1$
 $2x + 3y + 2z = 2$ and
 $bx + by + 2bz = 4$
- Q.7 Using mathematical induction, prove that
 $\frac{dx}{dy} (x^n) = nx^{n-1}$ for all positive integer n .
- Q.8 Evaluate $\int x \log x \, dx$
- Q.9 Find a unit vector perpendicular to each of the vectors $\vec{a} + \vec{b}$ and $\vec{a} - \vec{b}$ where $\vec{a} = \hat{i} + \hat{j} + \hat{k}$ and
 $\vec{b} = \hat{i} + 2\hat{j} + 3\hat{k}$

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Q.10 Find the Vector Equation of a plane which is at a distance of 7 units from the origin and normal to the vector $3\hat{i} + 5\hat{j} - 6\hat{k}$

Q.11 Evaluate $P(A \cup B)$, if $2P(A) - P(B) = \frac{5}{13}$ and $P\left(\frac{A}{B}\right) = \frac{2}{5}$

Q.12 Events A and B are such that $P(A) = \frac{1}{2}$, $P(B) = \frac{7}{12}$ and $P(\text{not A or not B}) = \frac{1}{4}$. State whether A and B are independent.

Section-C

Q.13 Find the value of x, satisfying

$$\sin^{-1}\left(\frac{2a}{1+a^2}\right) + \cos^{-1}\left(\frac{1-a^2}{1+a^2}\right) = \tan^{-1}\left(\frac{2x}{1-x^2}\right)$$

Q.14. 10 Students were selected from a school on the basis of values for giving awards and were divided into three groups. The first group comprises hard workers, the second group has honest and law abiding students and the third group contains vigilant and obedient students. Double the number of students of the first group added two the number in the second group gives 13, while the combined strength of first and second group is four times that of the third group. Using matrix method, find the number of students in each group.

OR

Using matrices, solve the following system of Equations: $2x+y+z=1$, $x-2y-z=\frac{3}{2}$ and $3y-5z=9$

Q.15 If $(x-a)^2 + (y-b)^2 = c^2$, then prove that $\frac{\left[1 + \left(\frac{dy}{dx}\right)^2\right]^{3/2}}{\frac{d^2y}{dx^2}}$ is a constant and independent of a and b.

Q.16 Find the Equation of a curve passing through the point (0,2) given that the sum of the co-ordinate of any point on the curve exceed the magnitude of the slope of the tangent to the curve at the point by 5.

Q.17 Find the Equation of the curve passing through the point $(0, \frac{\pi}{4})$, whose differential Equation is $\sin x \cos y dx + \cos x \sin y dy = 0$

Q.18 For any three vectors \vec{a} , \vec{b} and \vec{c} . Show that $\vec{a} - \vec{b}$, $\vec{b} - \vec{c}$, $\vec{c} - \vec{a}$ are coplanar.

OR

If with reference to a right handed system of mutually perpendicular unit vector \hat{i} , \hat{j} and \hat{k} . We have $\vec{a} = 3\hat{i} - \hat{j}$ and $\vec{\beta} = 2\hat{i} + \hat{j} - 3\hat{k}$. Express $\vec{\beta}$ in the form of $\vec{\beta} = \beta_1 + \beta_2$ where β_1 is parallel to \vec{a} and β_2 is perpendicular to \vec{a} .

Q.19. Find the vector and cartesian equation of the plane that passes through the point (1,4,6) and the normal vector to the plane is $\hat{i} - 2\hat{j} + \hat{k}$.

Q.20 Find the image of the point (1,3,4) in the plane $2x - y + z + 3 = 0$.

- Q.21 A bag contains 4 red and 4 black balls and another bag contains 2 red and 6 black balls. One of the two bags is selected at random and a ball is drawn from the bag which is found to be red . Find the Probability that the ball is drawn from the first bag.

OR

A bag contains 4 white and 5 black balls. Another bag contains 9 white and 7 black balls. A balls is transferred from the first bag to the second bag and then a ball is drawn at random from the second bag. Find the probability that the ball drawn is white.

- Q.22 A coin is biased so that the head is 3 times as likely to occur as tail. If the coin is tossed twice then find the probability distribution of number of tails.

- Q.23 Suppose X has a binomial distribution $B(6, \frac{1}{2})$, Show that $X = 3$ is the most likely outcome.

Section-D

- Q.24 Show that the volume of the largest cone that can be inscribed in a sphere of radius R is $\frac{8}{27}$ of the volume of the sphere.

- Q.25 Evaluate $\int_0^{\pi/2} (2 \log |\sin x| - \log |\sin 2x|) dx$

OR

Evaluate $\int \frac{1}{\sqrt{\sin^3 x \sin(x+\alpha)}} dx$

- Q.26 Find the area of the region bounded by the line $y = 3x+2$, the X – axis and the ordinate $x = -1$ and $x = 1$

- Q.27 Solve $\frac{dy}{dx} - 3y \cot x = \sin 2x$, where $y = 2$ and $x = \frac{\pi}{2}$

OR

In a bank , principal increases continuously at the rate of 5 % per year. An amount of Rs. 1000 is deposited with this bank, how much will it be worth after 10 years?

($e^{1/2} = 1.648$)

- Q.28 Find the direction cosines of the sides of the triangle whose vertices are $(3, 5, -4)$, $(-1, 1, 2)$ and $(-5, -5, -2)$

OR

Find the equation of the plane through the intersection of the plane $\vec{r} \cdot (\hat{i} + 3\hat{j}) - 6 = 0$ and $\vec{r} \cdot (3\hat{i} - \hat{j} - 4\hat{k}) = 0$ whose perpendicular distance from origin is unity.

- Q.29 A merchant plans to sell two types of personal computers, a desktop model and a portable model that will cost Rs. 25,000 and Rs. 40,000 respectively. He estimates that the total monthly demand of computers will not exceed 250 units. Find the number of units of each type of computers which the merchant should stock to get maximum profit , if he does not want to invest more than Rs. 70 Lakhs and his profit on the desktop model is Rs. 4500 and on the portable model is Rs. 5000. Make an LPP and solve it graphically, write the importance of the computer.