

(2024-25)

Oak Grove School, Jharipani
Entrance Test -2024
Class -XI

MM:100

Instructions:

Time: 2:30 hrs

- There are 5 sections in all.
- Marks allotted to each question are mentioned in the brackets after the question.
- You should not mention your Name, Roll No. or any sign of identification anywhere on the Answer Booklet, except for the Top Sheet. Violation of this instruction will result in immediate disqualification of the candidate.
- You should mention your preferred subjects as indicated in the Top Sheet of the Answer Booklet. The same is tentative and not final and will be used for counselling purpose only
- All questions in all sections are compulsory. There is no internal/external choice.

Section I

English (10)

1. Read the unseen passage below and answer the questions that follow: (5)

Today's woman is a highly self-directed person, alive to the sense of her dignity and the importance of her functions in the private domestic domain and the public domain of the world of work. Women are rational in approach, careful in handling situations and want to do things as best as possible. The Fourth World Conference of Women held in Beijing in September 1995 had emphasized that no enduring solution of society's most threatening social, economic and political problems could be found without the participation and empowerment of the women. The 1995 World Summit for Social Development had also emphasized the pivotal role of women in eradicating poverty and mending the social fabric.

The Constitution of India had conferred on women equal rights and opportunities political, social, and educational and of employment with men. Because of oppressive traditions, superstitions, exploitation and corruption, a majority of women are not allowed to enjoy the rights and opportunities, bestowed on them. One of the major reasons for this state of affairs is the lack of literacy and awareness among women. Education is the main instrument through which we can narrow down the prevailing inequality and accelerate the process of economic and political change in the status of women.

The role of women in a society is very important. Women's education is the key to a better life in the future. A recent World Bank study says that educating girls is not a charity, it is good economics and if developing nations are to eradicate poverty, they must educate the girls. The report says that the economic and social returns on investment in education of the girls considerably affect the human development index of the nation. Society would progress only if the status of women is respected and the presence of an educated woman in the family would ensure education of the family itself. Education and empowerment of women are closely related.

Women's education has not received due care and attention from the planners and policymakers. The National Commission for Women has rightly pointed out that even after 50 years of independence; women continue to be treated as the single largest group of backward citizens of India. The role of women in overall development has not been fully understood nor has it been given its full weight in the struggle to eliminate poverty, hunger, injustice and inequality at the national level. Even when we are at the threshold of the 21st century, our society still discriminates against women in matters of their rights and privileges and prevents them from participating in the process of national and societal progress.

Various Committees and Commissions have been constituted before and after the

independence to evaluate the progress in women's education and to suggest ways and means to enhance the status of women. The female literacy rate has gone up in the 20th century from 0.6 per cent in 1901 to 39.29 per cent in 1991 but India still possesses the largest number of illiterate women in the world. The female literacy index for the year 1991 shows that there are eight States which fall below the national average. The most populous States of the country, UP, MP, Bihar and Rajasthan fall in the category of most backward States as far as female literacy is concerned.

The prevailing cultural norms of gender behaviour and the perceived domestic and reproductive roles of women tend to affect the education of girls. Negative attitude towards sending girls to schools, restrictions on their mobility, early marriage, poverty and illiteracy of parents affect the girl's participation in education.

Women's political empowerment got a big boost with the Panchayati Raj Act of 1993 which gave them 30 per cent reservation in Village Panchayats, Block Samities and Zila Parishads throughout the country. The National Commission for Women was also set up in 1992 to act as a lobby for women's issues.

The educational system is the only institution which can counteract the deep foundations of inequality of sexes that are built in the minds of people through the socialization process. Education is the most important instrument of human resource development. Educational system should be used to revolutionize the traditional attitudes and inculcate new values of equality.

- (i) Mention any two attributes of a modern woman.
- (ii) Why are women's participation and empowerment considered necessary?
- (iii) Which factors adversely affect the education of girls?
- (iv) What benefits did the women get with the enactment of the Panchayati Raj Act of 1993?
- (v) By what process can we remove the sense of inequality of sexes from the minds of the people?

2. You live in Greater Noida, Uttar Pradesh. In your locality, the street lights are not well functioning and thus it gets really dark in the evening. Write a letter to the Municipal Corporation of your city regarding this problem. (100-120 words) (3)

OR

Write a letter to the Editor regarding the need for construction of pavement for the ease of pedestrians. You are a resident of Dehradun. Sign yourself as Harish/ Harishita.

3. Identify the error in sentences: (2)

- a. Pulses are a rich source in protein.
- b. I go to school every day through bus.

Section II

Mathematics (20)

Part -A (1X5= 5)

- Q-1 If α, β are zeroes of the polynomial $x^2 - 1$. Find the value of $\alpha + \beta$.
- Q-2 A point (x,y) is at a distance of 5 units from the origin. How many such points lie in the third quadrant?
- Q-3 If $\tan(5x + 30) = 1$ then what is the value of x .
- Q-4 Find the 20th term of the sequence 7, 3, -1, -5-----.
- Q-5 What is the formula of perimeter of circle whose radius r cm.

Part -B (2X3=6)

- Q-6 Find the HCF of the positive integers 455 and 42 with the help of the division algorithm.
- Q-7 If two solid hemisphere of same base radius r are joined together along these bases, then what is the curved surface area of this new solid.

Oak Grove School, Mussoorie
ENTRANCE EXAMINATION 2013
CLASS XI

Note :- Each subject's questions shall be answered separately in different sheets.

Total Time period:- 3 Hrs. 20 Min.

If the sum of the first n terms of an A.P. be $3n^2 + n$ and its common difference is 6. What is the first term of this A.P.

Part -C (3X3=9)

Q-9 Prove that $\frac{\cos^4 x - \sin^4 x}{1 - \tan x} = \frac{\cot x + 1}{\sec x \cdot \operatorname{cosec} x}$

Q-10 In a pair of linear equation

$$x + 0.999y = 2.999$$

$$0.999x + y = 2.998$$

Without finding the value of x and y prove that $x - y = 1$

Q-11 The difference of the squares of two numbers is 180. The square of the smaller number is 8 times the greater number. Find the two numbers.

Section III

Science (30)

Physics(10)

1. A wire of resistivity p is stretched to double its length. What is its new resistivity? (1)
2. State two properties of magnetic lines of force? (2)
3. Why is the earth pin thicker and longer than the live and the neutral pins? (2)
4. What is meant by power of accommodation of eye? (2)
5. A person is known to use a lens of power
(i) -5.5 D for his distant vision
(ii) $+1.5$ D for his near vision
Calculate the focal length of the lens used for correcting his
(a) Distant vision and
(b) Near vision problems. (3)

Chemistry (11)

1. What is the chemical formula of rust? (1)
2. How would you distinguish between baking powder and washing soda by heating? (2)
3. Write the balanced chemical equations for the following reactions--- (2)
(a) Sodium carbonate on reaction with hydrochloric acid in equal molar concentrations gives sodium chloride and sodium hydrogen carbonate.
(b) Sodium hydrogen carbonate on reaction with hydrochloric acid gives sodium chloride, water and liberates carbon dioxide.
4. A salt X is formed, and gas is evolved when ethanoic acid reacts with sodium hydrogen carbonate. Name the salt X and the gas evolved. Describe an activity and draw the diagram of the apparatus to prove that the evolved gas is the one you have named. Also, write a chemical equation of the reaction involved. (3)
5. Iqbal treated a lustrous, divalent element M with sodium hydroxide. He observed the formation of bubbles in the reaction mixture. He made the same observations when this element was treated with hydrochloric acid. Suggest how can he identify the produced gas. Write chemical equations for both reactions. (3)

Biology (9)

1. Name the enzyme that digests fat? (1)
2. What is emulsification? (2)
3. The diagram of Neuron with 5 labelling. (3)
4. What is double circulation in circulatory system in human beings? (3)

Section IV
History (6)

Social Science (20)

1. How did culture play an important role in creating the idea of the 'nation' in Europe? Explain with examples. (3)
2. "The Congress was reluctant to include the demands of industrial workers in its programme of struggle." Analyse the reasons. (3)

Geography (7)

- Q.1: Explain how water becomes a renewable resource. (02)
- Q.2: What factors are responsible for the location of jute mills in the Hooghly Basin? (02)
- Q.3 :What are the human activities responsible for land degradation in India? Explain. (03)

Civics(7)

- Q.1 Explain the meaning of right. (1 mark)
- Q.2 What is the importance of right to vote? (2 marks)
- Q.3 What do you mean by Federal structure of government? How is it different from Unitary System of government? (2marks)
4. How the local government expands the scope of democracy in India? (2 marks)

Section V
Computers (7)

Miscellaneous (20)

1. What is DNS? (1)
2. Define web browser. (1)
3. What are the domains of AI? (2)
4. What is Firewall? What are its types? (3)

Economics (7)

- 1 Which criterion is used in World development Report in classifying countries? (1)
- 2 Your friend is 150cm tall and has a weight of 40 kg. Find out his BMI. (1)
- 3 Why do you think MGNREGA 2005 is referred to as "Right to work"? (1)
- 4 How has Information Technology enabled globalization? (1)
- 5 What kind of unemployment mainly exists in the Primary Sector? (1)
- 6 How is the concept of Self Help Groups important for the poor people? Give your viewpoint. (2)

Basic Accountancy (6)

- 1 Hari has built a cubical water tank with lid for his house with each outer edge 1.5m long. He gets the outer surface of the tank, excluding the base, covered with square tiles of sides 25 Cm. Find how much he would spend for the tiles if the cost of the tile is Rs. 360 per dozen. (2)
- 2 A hemispherical Dome for a building needs to be painted. If the circumference of the base of the Dome is 17.6 meter. Find the cost of painting it, given the cost of painting is Rs. 5 per 100 centimeters square. (2)
- 3 Shashi has a piece of land which is in the shape of a rhombus. She wants her one daughter and one Son to work on the land and produce different crops. She divided the land into two equal parts. If the perimeter of the land is 400 meter and one of the diagonal is 160 meter .How much area each of them will get for their crops. (2)