



MACRO VISION ACADEMY, BURHANPUR

Entrance Test 2018-19

Class: XI (MATHS)

Time 2:00 Hrs.

M.M.:100

Physics (15)

1. Why sky is appeared blue in day and we see different colours of sky in evening and afternoon? **3**
2. How AC Generator works? Write its working uses with diagram? **3**
3. If Wire has a resistance of 4 ohms is doubled by folding it what will be its new resistance? **3**
4. Explain the OTEC? What and how is Geothermal Energy Works? **3**
5. An object 5 cm in length is held 25 cm away from a converging lens of focal length 10 cm. Draw the ray diagram and find the position, size and the nature of the image formed. **3**

Chemistry(15)

6. Identify and name the metals out of the following elements whose electronic configurations are given below: **3**
(a) 2,8,2 (b) 2,8,7 (c) 2,8,1 (d) 2,8,6
7. An element X has three electron shells with 5 electrons in the outermost shell. Predict the following about the element. **3**
i) The period in which it is located.
ii) The group in which it is located.
iii) Its atomic no. and name.
8. (a) Draw structure of the followings: **3**
(i) 2-Chlorohexanol (ii) Oct-2-yne
(b) Write IUPAC name of

O

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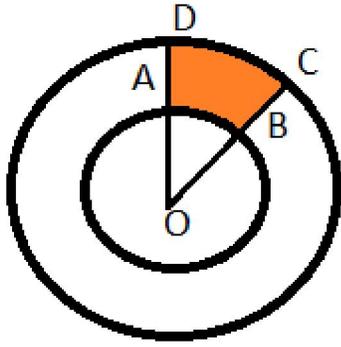


9. A) Give chemical formula of baking soda and bleaching powder. **1**
B) An pH paper two reagents show dark red and green colour respectively, give there nature. **2**
10. A) What will happen when:- (Give any example with chemical equation) **3**
i) A metal reacts with a non metal.
ii) Metal carbonate reacts with acid.
B) Give name and formula of any iron ore.

(Mathematics 50)

11. What is the distance between two parallel tangents of a circle of radius 4 cm? **1**
12. A die is thrown once. What is the probability of getting a prime number? **1**
13. Write the distance between the points $A(10 \cos \alpha, 0)$ and $B(0, 10 \sin \alpha)$. **1**
14. Write the area of the sector of a circle whose radius is r and length of the arc is l . **1**
15. Write the value of k for which the quadratic equation $x^2 - kx + 4 = 0$ has equal roots. **1**
16. For what value of k are the points $(k, 2-2k)$, $(-k+1, 2k)$ and $(-4-k, 6-2k)$ are collinear? **2**
17. In a circle with centre O and radius 5 cm, AB is a chord of length $5\sqrt{3}$ cm. Find the area of sector AOB **2**
18. How many three digit numbers are divisible by 7? **2**
19. If the mean of the following distribution is 6, find the value of p . **2**

$x:$	2	4	6	10	$p+5$
$f:$	3	2	3	1	2
20. A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball is double that of a red ball, find the number of blue balls in the bag. **2**
21. AB and CD are receptively arcs of two concentric circles of radii 21 cm and 7 cm and centre O . If $\angle AOB = 30^\circ$, find the area of the shaded region. **3**



22. If the HCF of 85 and 153 is expressible in the form $85m - 153$, find the value of m is **3**
23. Ten year ago, father was twelve times as old as his son and ten years hence, he will be twice as old as his son will be. Find their present ages. **3**
24. The area of a right angled triangle is 600cm^2 . If the base of the triangle exceeds the altitude by 10cm , find the dimensions of the triangle. **3**
25. If α, β are the zeroes of the polynomial $f(x) = 2x^2 + 5x + k$ satisfying the relation $\alpha^2 + \beta^2 + \alpha\beta = \frac{21}{4}$, then find the value of k for this to be possible. **3**
26. A solid wooden toy is in the shape of a right circular cone mounted on a hemisphere. If the radius of the hemisphere is 4.2 cm and the total height of the toy is 10.2 cm , find the volume of the wooden toy. **5**
27. The hypotenuse of a grassy land in the shape of a right triangle is 1 metre more than twice the shortest side. If the third side is 7 metres more than the shortest side, find the sides of the grassy land. **5**
28. Prove that the ratio of the area of two similar triangles is equal to the square of the ratio of their corresponding medians. **5**
29. The sum of first n terms of a sequence is $(n^2 + 5n)$, where n is a natural number. Find the first 4 terms of the sequence and also its 10^{th} term **5**

(English 20)

30. **Read the passage given below and answer the following questions.** **6**

Competition, the process of rivalry between firms striving to gain sales and make profits, is the driving force behind economies. Efficient and fair markets are essential for economic growth. Effective competition is not automatic and can be harmed by inappropriate government policies, legislations and anti-competitive conduct of corporate firms. So there is an indispensable need for a definite system of law to ensure effective and fair competition and therefore enjoy its benefits.

Competition laws maintain and promote market competition by regulating anti-competitive conduct of firms. The history of competition law dates back to the Roman Empire when one of the earliest examples of competition law 'Lex Julia de Annona' was enacted in 50 BC. Influenced by the Constitution of Zeno in Rome in 483 AD, the Florentine municipal law of 1322 and 1325 was considered to be a pro-competition law. During the middle ages, England also saw the coming up of such competition laws under King Henry III who passed an Act in 1266 and King Edward III who passed the Statute of Labourers of 1349 and other statutes that outlawed anti-competitive practices. Modern competition law began in the USA when it formulated the Sherman Act, 1890 and the Clayton Act, 1914. The USA's codification for the common law position on restraint of trade had a widespread effect on the subsequent development of competition law. After World War II and the fall of the Berlin Wall, competition law went through phases of renewed attention and legislative updates all around the world.

The history of competition law in India dates back to the 1960's when the first competition law, namely the MRTP Act was enacted in 1969. But after the economic reforms in 1991, this legislation was found to be obsolete in many aspects and as a result, a new competition law in the form of the Competition Act, 2002 was enacted in 2003. This legislation has been quite effective till date. The Competition Commission of

India, a quasi judicial body established under the Competition Act, 2002 has performed satisfactorily to curb anti-competitive practices in the Indian markets.

1. In which year and where was the first instance of competition law recorded?
2. When did the modern competition law begin?
3. The major reason for the MRTP Act to be found inadequate in 1991 was..... .
4. The word used in the first paragraph which is a synonym of 'unsuitable' is
5. Effective competition may be harmed by what actions?
6. Competition laws maintain and promote market competition in what ways?

31. Write a story beginning with the words given below in 150-200 words. **3**
As I walked through the thick pine forest in Shimla, I sensed someone following me and....

32. Diksha/Daksh was travelling from Delhi to Chandigarh by bus. At Panipat bus stop, a passenger got into the bus and sat next to her/him. The bus halted at Ambala City for ten minutes. As the passengers got down from the bus, there was a big explosion in the bus. **3**
The next day, TV and newspapers flashed the picture of a dreaded terrorist, who incidentally was the co-passenger of Diksha/Daksh. Seeing the picture of the terrorist Diksha/Daksh writes a letter to the Editor of a local daily giving the complete description and details about the terrorist who shared a seat with him/her (100-120 words).

33. The following passage has not been edited. There is one error in each of the lines. Write the incorrect word and the correction in the space provided **4**

	Error.	Correction
Community service sensitise people to	(a)
other's needs and supports inclusive	(b)
development to the underprivileged	(c)
sections with the society. Courses about social	(d)
work prepares frontline workers to	(e)
takes up assignments in social welfare	(f)
organisations. Practical work including	(g)
50 hour of structured internship to man projects.	(h)

34. Rearrange the following jumbled words/phrases to make meaningful sentences. **2**
(i) he is/ party/ explain why/ to/ didn't/ going/ go to/ they/ the
(ii) permission/ come or/ will/ depends on/ whether she/ her mother's/ not there

35. Complete the passage using suitable prepositions. **2**
The rain had just stopped. I went (i) the garden. Then I heard a soft mewling. I saw a little white kitten. It was so thin that its bones were showing. It was wet and shivering. I brought it (ii) the house and dried it. My brother came (iii) 'Do you know who this kitten belongs. I took it (iv) the garden to play.