

ETERNAL OLYMPIAD

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CLASS – IX

(VIII to IX Moving Students)

SAMPLE PAPER

This Paper contains **60 Multiple Choice Questions**. Each question has four choices (a), (b), (c) and (d) out of which **ONLY ONE** is correct.

SECTION-A (MENTAL ABILITY)

1. If $27 * 3 = 243$ and $5 * 4 = 80$. Then what is the value of $3 * 7 = ?$
- (a) 84 (b) 147 (c) 63 (d) 23
2. In the following question, alphabet series is given with one term missing. Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.
- AYBZC, DWEXF, GUHVI, JSKTL ?

- (a) MQORN (b) MQNRO (c) NQMOR (d) QMONR
3. Choose from the four diagrams marked (1), (2), (3) and (4) the one that best illustrates the Relationship among three given classes.

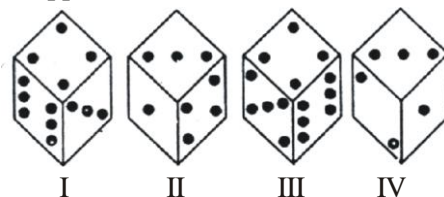
Man, father, brother

- (a)  (b) 
- (c)  (d) 

4. Find the missing letter (?)

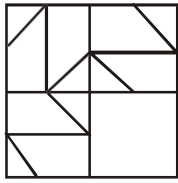
A	D	H
F	I	M
?	N	R

- (a) K (b) N (c) O (d) P
5. Anmol finds that he is twelfth from the right in a line of boys and fourth from the left, how many boys should be added to the line such that there are 35 boys in the line ?
- (a) 19 (b) 31 (c) 14 (d) 20
6. How many dots are present on the dice face opposite to the three dots?

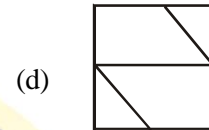
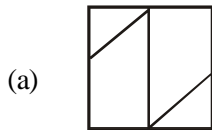


- (a) 2 (b) 4 (c) 5 (d) 6

7. In the following question, select a figure from amongst the four alternatives, which when placed in the blank space of fig.(X) would complete the pattern.



(X)



Directions (Q.8 & Q.9) : Six persons A, B, C, D, E and F are sitting in two rows three in each, facing each other.

E is not at the end of any row. D is second to the left of F.

C the neighbour of E, is sitting diagonally opposite to D. B is the neighbour of F.

8. Who among the following are sitting in the same row?

(a) A and B (b) C and F (c) C and B (d) A and E

9. If D and E exchange their seats who will be the neighbours of D in the new seating arrangement?

(a) only C (b) only B (c) E and B (d) C and A

10. If MUSK is coded as 146816, then ZERO will be coded as

(a) 1015 (b) 122912 (c) 1813 (d) 914

SECTION-B (PHYSICS)

11. Choose the incorrect match.

(a) m/s – velocity (b) m/s^2 – acceleration
(c) light year – distance (d) m^2/s – displacement

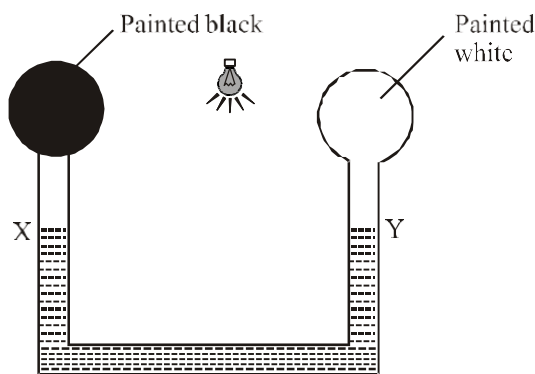
12. What is the order of the colours in the spectrum formed when white light passes through a triangular prism?

(a) red, orange, green, blue, yellow, indigo, violet
(b) red, orange, green, yellow, blue, indigo, violet
(c) red, orange, yellow, green, blue, indigo, violet
(d) red, yellow, orange, green, blue, indigo, violet

13. A quantity has value of -6.0 ms^{-1} . It may be the

(a) Speed of a particle (b) Velocity of a particle
(c) Position of a particle (d) Displacement of a particle

14. The figure shows air-filled bulbs connected by a U-tube partly filled with alcohol. What happens to the levels of alcohol in the limbs X and Y when an electric bulb placed midway between the bulbs is lighted?



- (a) The level of alcohol falls in both limbs.
(b) The level of alcohol in the limb X rises while that in limb Y falls.
(c) The level of alcohol in limb X falls while that in limb Y rises.
(d) There is no change in the levels of alcohol in the two limbs.

15. A virtual image can never be

- (a) smaller than the object. (b) larger than the object
(c) captured on paper. (d) upright if the object is upright.

16. A car moves with a speed of 60 km h^{-1} for 20 min and then at a speed of 30 km h^{-1} for the next 20 min.

The total distance covered by the car is

- (a) 10 km (b) 20 km
(c) 30 km (d) 40 km

17. Which of the following motions is not uniform?

- (a) A satellite in orbit around the Earth.
(b) A ball rolls along a table without changing velocity.
(c) A jogger runs 50 m along a straight track at a constant speed.
(d) An elevator moves vertically upward at zero acceleration.

18. Freezing point on a thermometer is marked as 20° and boiling point as 150° . A temperature of 60°C on this thermometer will be read as

- (a) 25° (b) 65° (c) 98° (d) 110°

19. Stainless steel pans are usually provided with copper bottoms. The reason for this could be that

- (a) Copper bottom makes the pan more durable
(b) Such pans appear colourful
(c) Copper is a better conductor of heat than the stainless steel
(d) Copper is easier to clean than the stainless steel

20. As the distance of an object from a converging mirror decreases, the image

- (a) increases in size and moves away from the mirror.
(b) increases in size and moves toward the mirror.
(c) decreases in size and moves away from the mirror.
(d) decreases in size and moves toward the mirror.

SECTION-C (CHEMISTRY)

21. Which of these will react with oxygen to form an acidic oxide?

- (a) Sodium
- (b) Sulphur
- (c) Calcium
- (d) Zinc

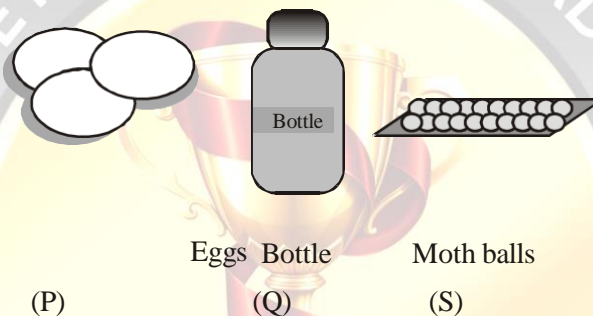
22. Which of the following is true for acids ?

- (a) Bitter and change red litmus blue
- (b) Sour and change red litmus blue.
- (c) Sour and change blue litmus red
- (d) Bitter and change blue litmus red

23. Which of the following are chemical changes?

- (i) Decaying of wood
 - (ii) Burning of wood
 - (iii) Growth of wood in a tree.
 - (iv) Hammering of a nail into a piece of wood.
- (a) (i) & (ii)
 - (b) (ii) & (iv)
 - (c) (iii) & (iv)
 - (d) (i), (ii) & (iii)

24. Three substances given below are kept in open for a few days and some changes were observed.



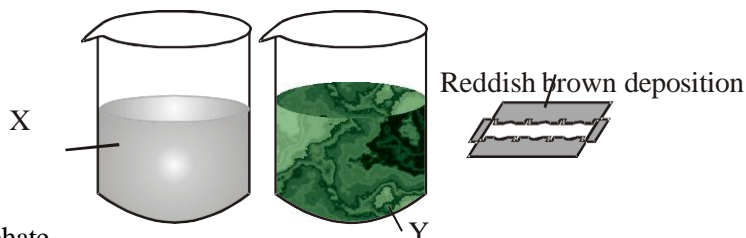
Which of the substances will show chemical changes ?

- (a) Eggs
- (b) Plastic bottle
- (c) Both Eggs and moth balls
- (d) None of these

25. Which of the following statement is **INCORRECT**?

- (a) H_2SO_4 is known as KING OF CHEMICALS.
- (b) Aqua Regia is a mixture of conc. HCl and conc. HNO_3 in the ratio of 3 : 1
- (c) The acid found in lemons is oxalic acid.
- (d) The characteristic properties of acids is due to the hydronium ion.

26. Rajat was performing an experiment with a blue coloured solution (X) in a beaker. By mistake a shaving blade fell into the beaker. After half an hour, he found that the colour of the solution in beaker changed to green (Y). What could be the solutions X and Y respectively?



- (a) Copper sulphate, Iron sulphate
- (b) Iron sulphate, Copper sulphate
- (c) Iron sulphate, Zinc sulphate
- (d) Copper sulphate, Zinc sulphate

27. State which of the following is not likely to be an element.

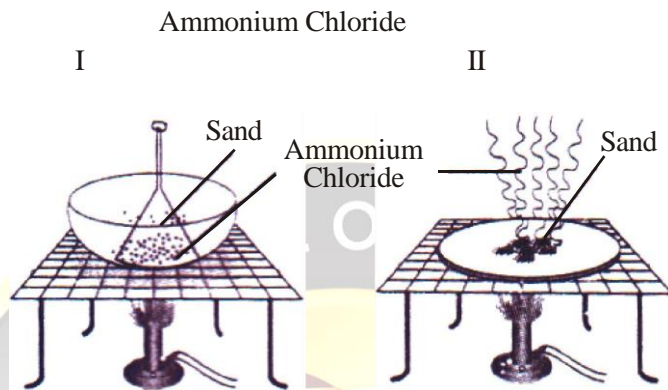
I. On heating it gives off a gas and leaves a residue.

II. Burns in air to form carbon dioxide and water.

III. Changes into solid at 273 K and to a gas at 373 K.

- (a) I (b) II and III
 (c) I and III (d) I, II, III

28. A student is given a mixture containing sand and ammonium chloride. He is asked to separate these two components. The correct way to separate these two components is



- (a) I (b) II (c) III (d) IV

29. Somya was asked by her teacher to prepare a dilute sulphuric acid from concentrated sulphuric acid. What should she do ?

- (a) Add water to the acid
 (b) Add acid to the water
 (c) Add a base to the concentrated acid
 (d) Add an alkali to the concentrated acid

30. Match the following

Column I		Column II	
(a)	No more solution can be dissolved	(i)	Threshing
(b)	More solute can be dissolved	(ii)	Centrifugation
(c)	Conversion of water vapour into water	(iii)	Saturated solution
(d)	Removal of grain from stalk	(iv)	Unsaturated solution
(e)	Separation of cream from curd	(v)	Condensation

(a) a → (ii), b → (iv), c → (v), d → (i), e → (iii)

(b) a → (iv), b → (iii), c → (v), d → (ii), e → (i)

(c) a → (iii), b → (iv), c → (v), d → (i), e → (ii)

(d) a → (iv), b → (iii), c → (v), d → (i), e → (ii)

SECTION-D (BIOLOGY)

31. Match Column I with Column II and choose the correct option.

	Column I		Column II
P.	Insect	I.	Skin
Q.	Fishes	II.	Gills
R.	Earthworm	III.	Trachea
S.	Human	IV.	Lungs

- (a) P - III, Q - II, R - I, S - IV
(b) P - I, Q - II, R - III, S - IV
(c) P - IV, Q - III, R - II, S - I
(d) P - III, Q - I, R - II, S - IV

32. The first compartment of cattle's stomach whose main function is to digest cellulose is

- (a) Rumen
(b) Reticulum
(c) Omasum
(d) Abomasum

33. Which of the following best explains why many birds and mammals migrate during the winter?

- (a) To escape predators
(b) To reproduce in a more favourable environment.
(c) To find a better environment in which to settle permanently.
(d) To find a more favourable environment in which to hibernate.

34. Digestion of carbohydrate takes place in

- (a) Oesophagus and small intestine
(b) Stomach and large intestine
(c) Buccal cavity and small intestine
(d) Small intestine and large intestine

35. On what would an animal with a long digestive system and a large caecum probably feed on?

- (a) Insects
(b) Bacteria
(c) Plants
(d) Herbivores

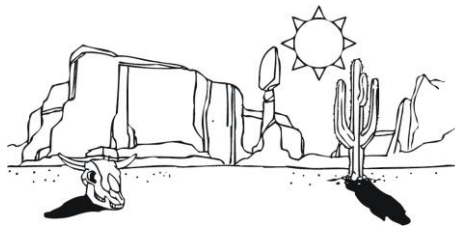
36. James fell down from a tricycle and got minor injuries on his body. He noticed that blood was coming out from the injuries but it stopped after sometime and a dark red clot was formed there. The clot is formed because of the presence of

- (a) Red blood cells
(b) Plasma
(c) White blood cells
(d) Platelets

37. If you chew on a piece of bread long enough, it will begin to taste sweet because

- (a) maltase is breaking down maltose
(b) lipases are forming fatty acids
(c) amylase is breaking down starches to disaccharides
(d) disaccharides are forming glucose

38. What type of plant would be best suited for the environment shown below?



- (a) A large plant with large leaves
(b) A small plant with large leaves
(c) A large plant with no leaves
(d) A small plant with small and scaly leaves

39. The transpiration in plants will be lowest when
- (a) There is high humidity in the atmosphere (b) There is excess of water in the cell.
(c) Environmental conditions are very dry (d) There is high wind velocity.
40. Black bears have thick fur that traps air. How does this air insulate the bear in winter
- (a) The air reduces thermal (heat) energy flow to the environment.
(b) The air produces thermal (heat) energy to keep the bear warm.
(c) The air transforms chemical energy to thermal (heat) energy.
(d) The air transfers thermal (heat) energy to the bear.

SECTION-E (MATHEMATICS)

41. How much pure alcohol must be added to 400 ml of a 15% solution to make its strength 32%?
- (a) 40 ml (b) 125 ml (c) 100 ml (d) 150 ml
42. A man goes 10 m due east and then 24 m due north. Find his distance from the starting point.
- (a) 26 m (b) 25 m (c) 24 m (d) 27 m
43. If a, b, c are integers, such that $a > b$, then
- (a) $a \times c > b \times c$, if c is positive (b) $a \times c < b \times c$, if c is positive
(c) $a \times c > b \times c$, if c is negative (d) None of these
44. In a ΔABC , AD is the altitude from A such that $AD = 12$ cm, $BD = 9$ cm and $DC = 16$ cm. Examine if ΔABC is right angled at A ?
- (a) Yes (b) No
(c) Cannot say (d) None of these
45. The weight of 34 bags of sugar is 3483.3 kg. If all bags weigh equally, find the weight of each bag.
- (a) 102.45 kg (b) 102 kg
(c) 101.45 kg (d) 101 kg
46. A picture frame is 80 cm by 60 cm then its diagonal is
- (a) 75 cm (b) 95cm
(c) 90 cm (d) 100 cm
47. Find two numbers such that one of them exceeds the other by 9 and their sum is 81.
- (a) 45, 36 (b) 36, 47
(c) 27, 36 (d) 54, 45
48. Which of the following numbers would not have digit 1 at units place ?
- (a) $(29)^2$ (b) $(41)^2$
(c) $(53)^2$ (d) $(69)^2$
49. Ages of two friends are in the ratio 2 : 1. If the sum of their ages is 51. Then their ages are
- (a) 34 yrs, 20 yrs (b) 34 yrs, 17 yrs
(c) 20 yrs, 10 yrs (d) 30 yrs, 15 yrs
50. $(-27) \times (-16) + (-27) \times (-14) = ?$
- (a) -810 (b) 810
(c) -54 (d) 54

SECTION-F (ENGLISH)

51. Let's hope we _____ (meet) again.

- (a) will meet (b) shall meet
(c) should met (d) none

52. Which is the car _____ you purchased?

- (a) who (b) whom
(c) which (d) that

53. _____ candidate must sign this sheet of paper.

- (a) All (b) Every
(c) Some (d) Any

54. Evelyn toured the United Kingdom _____ a youth orchestra.

- (a) On (b) at
(c) with (d) Without

55. Write the similar word of 'Pledge' from the given options:

- (a) Swear (b) Oath
(c) Expert (d) finished

56. Write the opposite word of 'slave' from the given options:

- (a) fright (b) fool
(c) master (d) executioner

57. Samiksha _____ lift this box.

- (a) may (b) can
(c) ought to (d) need not

58. To obey your teachers _____ a good quality.

- (a) are (b) am
(c) is (d) have

59. My brother is _____ M.L.A.

- (a) a (b) an
(c) the (d) none

60. Dear kusum,

I am totally confused. Find out error:

- (a) I (b) am
(c) confused (d) No error

