



Class – VIII (Going to IX) – Half Syllabus
Duration : 2 hrs. | Maximum Marks : 180

IMPORTANT INSTRUCTIONS

1. This Booklet is your Question Paper. **DO NOT** break seal of Booklet until the invigilator instructs to do so.
2. Fill your APRE Roll No. & Answer Sheet No. in the space provided on the cover page.
3. Please make sure that paper you received is of your class only.
4. The Answer Sheet is provided to you separately which is a machine-readable Optical Response Sheet (ORS).
You have to mark your answers in the ORS by darkening bubble, as per your answer choice, by using black or blue ball point pen.
5. After breaking the Question Paper seal, check there are 8 pages in the booklet. This Question Paper contains 60 MCQs with 4 choices (Subjects: Physics: 15, Chemistry: 15, Maths: 15, Biology:15)
6. Think wisely before darkening bubble as there is negative marking for wrong answer. Answer once marked by pen cannot be cancelled.
7. Marking Scheme:
 - a. If darkened bubble is **RIGHT** answer: 3 Marks.
 - b. If darkened bubble is **WRONG** answer: 1 Mark (Minus One Mark).
 - c. If no bubble is darkened in any question: No Mark.
8. If you are found involved in cheating or disturbing others, then your ORS will be cancelled.
9. Do not put any stain on ORS and hand. It over back properly to the invigilator.

Name of the Candidate: _____

Registration Number: _____

PHYSICS

- A force applied on an object may change its
(A) Weight (B) Colour (C) Mass (D) Speed
- A ball rolling on ground slows down and finally stops because of
(A) Friction (B) Temperature (C) Pressure (D) Shape
- Sound cannot travel through
(A) Water (B) Solids (C) Vacuum (D) Air
- Loudness of sound depends upon
(A) Amplitude (B) Wavelength (C) Time-period (D) Frequency
- Vibrating part of flute is
(A) Air-column (B) Rubber band (C) String (D) Stretched membrane
- Friction depends on the of surface.
(A) Colour (B) Smoothness (C) Matter (D) Size
- An interaction of one object with another object between the two objects.
(A) Results in a pressure (B) All of the above
(C) Results in a force (D) Results in a work
- The gravitational force is a:
(A) Contact force (B) Action at a distance force
(C) Non-contact force (D) Both B and C
- Which of the following are done to increase friction?
(A) Making groove in the shoes
(B) polishing rough surface
(C) Using ball bearing in wheels
(D) Creating an air cushion
- Two object repel each other. The repulsion could be due to
(A) Frictional force only
(B) Electrostatic force only
(C) Magnetic force only
(D) Either magnetic or an electrostatic force
- Tuning fork causes them to vibrate and produce sound. This is due to
(A) The two metal prongs of that tuning fork
(B) The length of the prongs of that tuning fork
(C) The speed of the molecule at the tuning fork
(D) Both (A) and (B)
- The weight of a man is 750 N. The total area of the soles of his shoes is 250 cm². Find the pressure he applies on the floor
(A) 30000P a (B) 150P a (C) 300P a (D) 3 × 10⁶ Pa
- Match the following

List I	List II
a. frictional force	e. reduction of friction
b. rolling friction	f. causes wear and tear

- c. ball bearing
d. increasing the roughness
- g. less than kinetic friction
h. increase of friction

The correct match is

- (A) $a \rightarrow i; b \rightarrow e; c \rightarrow h; d \rightarrow f$
(B) $a \rightarrow f; b \rightarrow f; c \rightarrow e; d \rightarrow g$
(C) $a \rightarrow f; b \rightarrow g; c \rightarrow e; d \rightarrow h$
(D) $a \rightarrow i; b \rightarrow f; c \rightarrow h; d \rightarrow e$

14. In the picture shown below, the man is



- (A) Applying no force on the stool
(B) Applying pressure on the stool
(C) Applying force on the stool
(D) Both (B) & (C)
15. In the bell jar experiment, after starting the vacuum pump the sound gradually become fainter and finally we hear a feeble sound. Why?
(A) The Vacuum pump absorbs the sound
(B) The medium is sucked by the pump
(C) The bell jar behaves as isolated medium
(D) The bell do not produce such strong sound as it was producing earlier.

CHEMISTRY

16. Which of the following best defines combustion?
(A) A process in which a substance reacts with water to release heat.
(B) A chemical process where a substance reacts with oxygen, releasing heat and sometimes light.
(C) A reaction that only occurs with solid fuels to produce heat.
(D) A process where fuel burns without producing heat.
17. What is the main reason for conserving fossil fuels like coal and petroleum?
(A) To prevent global warming and air pollution
(B) To avoid running out of fuel within a few years
(C) To save money on fuel costs
(D) To increase vehicle efficiency
18. If the process of refining in a petroleum refinery is stopped, which of the following would be the most likely consequence?
(A) The constituents like petrol and diesel would still be usable directly from crude petroleum without any further processing.
(B) All components of petroleum, including lubricating oil and paraffin wax, would remain mixed and could not be separated for specific uses.
(C) Only petroleum gas would be extractable from crude oil, while other constituents like petrol and diesel would be lost.
(D) The unpleasant odor of petroleum would disappear once it is processed, even if refining is halted.

19. Which of the following is false regarding the formation of coal?
- (A) Dense forests from about 300 million years ago were buried under the soil due to natural processes like flooding.
 - (B) As the forests were buried deeper, they were subjected to high pressure and high temperature, leading to the formation of coal.
 - (C) The process of dead plants turning into coal is called carbonisation because coal primarily consists of carbon.
 - (D) Coal was formed from recent plant remains that underwent rapid compression and temperature increase.
20. Which of the following statements is incorrect regarding natural resources?
- (A) Sunlight and air are inexhaustible natural resources that cannot be depleted by human activities.
 - (B) Exhaustible natural resources such as coal and petroleum can run out if overused by human activities.
 - (C) Forests and wildlife are examples of inexhaustible natural resources.
 - (D) Minerals, coal, and natural gas are exhaustible natural resources with a limited supply in nature.
21. Which of the following statements is incorrect about coal and its by-products?
- (A) Coke is a tough, porous, black substance that is almost pure carbon and is used in steel manufacturing and metal extraction.
 - (B) Coal tar is a mixture of about 200 substances and is used to produce everyday materials like dyes, plastics, and perfumes.
 - (C) Naphthalene balls, used to repel insects, are produced from coal gas obtained during coke processing.
 - (D) Coal gas was once used for street lighting but is now primarily used as a source of heat.
22. Which of the following inferences can be drawn about petroleum based on the given information?
- (A) Petroleum is a pure substance that needs to be refined to remove impurities.
 - (B) Refining is the process of separating the different constituents of petroleum to make them usable for various purposes.
 - (C) Petroleum gas and lubricating oil are synthesized artificially after petroleum is processed in the refinery.
 - (D) The unpleasant odor of petroleum is due to the presence of diesel and paraffin wax.
23. Which substances are used in the head of a modern safety matchstick?
- (A) Antimony trisulphide, potassium chlorate, and white phosphorus.
 - (B) Antimony trisulphide, potassium chlorate, and red phosphorus.
 - (C) Sulphur, potassium chlorate, and white phosphorus.
 - (D) Antimony trisulphide, potassium chlorate, and glue.
24. Why do substances like kerosene oil and molten wax produce flames when burned?
- (A) They contain high levels of carbon.
 - (B) They vaporize during burning, forming flames.
 - (C) They have a low ignition temperature.
 - (D) They react with oxygen to produce heat.
25. What does the formation of a circular blackish ring on a glass plate indicate?



- (A) The presence of unburnt fuel particles in the flame.
- (B) The presence of a high temperature zone in the flame.
- (C) The deposition of unburnt carbon particles from the luminous zone of the flame.**
- (D) The complete combustion of the fuel.

26. What does the fact that a copper wire gets red hot when held just inside the non-luminous zone of a flame suggest?
- (A) The non-luminous zone has a lower temperature than the luminous zone.
 - (B) The non-luminous zone is not as hot as the surrounding air.
 - (C) The non-luminous zone of the flame has a high temperature.**
 - (D) The copper wire is not a good conductor of heat.

Answer the following question 27 & 28 based on the paragraph below

The heat supplied to the paper cup is transferred to water by conduction. So, in the presence of water, the ignition temperature of paper is not reached. Hence, it does not burn. The substances which have very low ignition temperature and can easily catch fire with a flame are called inflammable substances.

27. Why does a paper cup not burn when heated with water inside it?
- (A) The paper cup is made of fire-resistant material.
 - (B) The water inside the cup absorbs the heat, preventing the paper from reaching its ignition temperature.**
 - (C) The water inside the cup cools the cup faster than the heat can affect it.
 - (D) The paper cup is designed to be non-flammable.
28. Which of the following is an example of an inflammable substance?
- (A) Water (B) Sugar **(C) Petrol** (D) Sand

29. Match the following petroleum products with their primary uses:

Column A (Petroleum Product)	Column B (Use)
1. Petroleum Gas in Liquid form (LPG)	(A) Lubrication
2. Petrol	(B) Ointments, candles, vaseline
3. Kerosene	(C) Fuel for heavy motor vehicles, electric gener
4. Diesel	(D) Fuel for stoves, lamps, jet aircrafts
5. Lubricating oil	e) Fuel for home and industry
6. Paraffin wax	f) Motor fuel, aviation fuel, solvent for dry clean
7. Bitumen	g) Paints, road surfacing

Choose the correct match:

- (A) 1-e, 2-f, 3-d, 4-c, 5-a, 6-b, 7-g**
 - (B) 1-e, 2-c, 3-f, 4-a, 5-d, 6-b, 7-g
 - (C) 1-c, 2-d, 3-e, 4-f, 5-a, 6-b, 7-g
 - (D) 1-d, 2-e, 3-c, 4-b, 5-a, 6-g, 7-f
30. Which of the following statements best explains why CNG (Compressed Natural Gas) is a highly advantageous fuel?
- (A) CNG is only used for domestic purposes, while other fuels are used for industrial purposes.
 - (B) CNG can be supplied directly to homes and factories via pipelines, reducing the need for storage and transportation.**
 - (C) The reserves of natural gas in India are primarily found in urban areas like Vadodara and Delhi.
 - (D) Natural gas is primarily used for the manufacture of chemicals and has limited use as a fuel.

MATHEMATICS

31. Which of the following numbers is not a perfect cube ?
- (A) 2197 (B) 512 **(C) 2916** (D) 343

32. The value of $\sqrt[3]{-125 \times (-1000)}$ is :
 (A) 50 (B) -50 (C) 55 (D) -55

33. Which of the following statements is true?

(A) $\frac{-2}{3} < \frac{4}{-9} < \frac{-5}{12} < \frac{7}{-18}$

(B) $\frac{7}{-18} < \frac{-5}{12} < \frac{4}{-9} < \frac{-2}{3}$

(C) $\frac{4}{-9} < \frac{7}{-18} < \frac{-5}{12} < \frac{-2}{3}$

(D) $\frac{-2}{3} < \frac{-5}{12} < \frac{4}{-9} < \frac{7}{-18}$

34. Which of the following rational numbers lie between $\frac{-3}{7}$ and $\frac{-9}{8}$?

(A) $\frac{-1}{2}$

(B) 0

(C) $\frac{12}{15}$

(D) None of these

35. The value of $\frac{5}{1 + \frac{1}{3 + \frac{1}{2\frac{1}{4}}}}$ is:

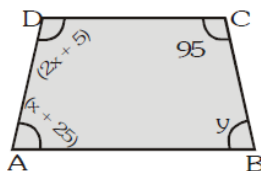
(A) $\frac{40}{31}$

(B) $\frac{4}{9}$

(C) $\frac{1}{8}$

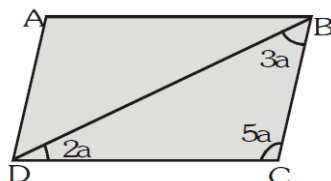
(D) $\frac{31}{8}$

36. The given figure ABCD is a trapezium in which $AB \parallel CD$ and $\angle A = (x + 25)^\circ$, $\angle B = y^\circ$, $\angle C = 95^\circ$ and $\angle D = (2x + 5)^\circ$:



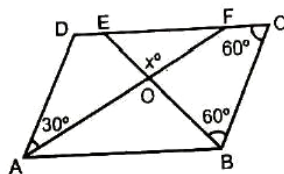
- (A) $x = 40^\circ, y = 90^\circ$ (B) $x = 45^\circ, y = 85^\circ$ (C) $x = 50^\circ, y = 85^\circ$ (D) $x = 92^\circ, y = 60^\circ$

37. The angles A, B, C, D in the parallelogram ABCD are :



- (A) $90^\circ, 90^\circ, 90^\circ, 90^\circ$ (B) $90^\circ, 45^\circ, 30^\circ, 15^\circ$ (C) $30^\circ, 60^\circ, 20^\circ, 40^\circ$ (D) $90^\circ, 45^\circ, 15^\circ, 20^\circ$

38. In the adjoining figure ABCD is a parallelogram, then the measure of x° is :



- (A) 45° (B) 60° (C) 90° (D) 135

39. $\frac{\sqrt[3]{8}}{\sqrt{16}} \div \frac{\sqrt{100}}{\sqrt{49}} \times \frac{\sqrt[3]{125}}{\sqrt{49}}$ is equal to

(A) 7

(B) $\frac{1}{4}$

(C) $\frac{7}{100}$

(D) $\frac{4}{7}$

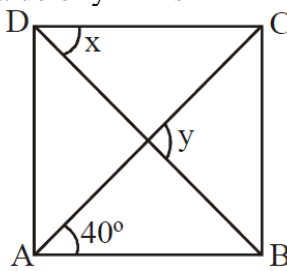
40. The least square number exactly divisible by 4, 6, 10, 15 is

(A) 400

(B) 100

(C) 25

(D) 900

41. The age of Reena and Tina are in the ratio 3 : 4. Five years ago their age were in the ratio 2 : 3. Find their present ages.
 (A) 15, 20 (B) 20, 80 (C) 30, 40 (D) 12, 16
42. In fig. ABCD is a rhombus. The value of $y - x$ is
- 
- (A) 40° (B) 50° (C) 20° (D) 10°
43. Cards marked with numbers 1 to 25 are placed in the box and mixed thoroughly. One card is drawn at random from the box. Then what is the probability of getting an even number?
 (A) 1 (B) 0 (C) $\frac{12}{25}$ (D) $\frac{13}{25}$
44. Solve $\frac{15}{4} - 7x = 9$
 (A) $\frac{3}{4}$ (B) $-\frac{3}{4}$ (C) 1 (D) None of these
45. Find the solution of $\frac{x+6}{4} + \frac{x-3}{5} = \frac{5x-4}{8}$
 (A) 8 (B) -8 (C) 4 (D) None of these

BIOLOGY

46. Cutting mature crop manually or by a machine is called:
 (A) Irrigating (B) Breeding (C) Weeding (D) Harvesting
47. Which of the following is a rabi crop?
 (A) Paddy (B) Cotton (C) Mustard (D) Maize
48. The big pieces of soil in the ploughed field are called
 (A) Crumbs (B) Flakes (C) Lumps (D) All of these
49. Plants get their nitrogen from the soil as:
 (A) Nitrates (B) Nitrogen dioxide (C) Nitrogen oxide (D) Nitric acid
50. In which of the following storage structure, food grains are stored?
 (A) Silos (B) Jute bags (C) Granaries (D) All of these
51. Chemical substances which are used to kill insects are called?
 (A) Fungicide (B) Insecticide (C) Weedicide (D) All of these
52. Which of the following person is known for his pioneering efforts in promoting the green revolution?
 (A) Albert Einstein (B) Norman Borlaug (C) Benjamin Franklin (D) Carlous Linnaeus

53. Carrier of malaria causing protozoan is:
(A) Female Anopheles mosquito
(B) Cockroach.
(C) Housefly
(D) Butterfly
54. The bacterium present in curd is:
(A) *Salmonella typhi* (B) *Lactobacillus* (C) *Penicillin* (D) *Vibrio cholera*
55. _____ are the agents that act as carriers of a pathogen & spread diseases
(A) Vectors (B) Microbes (C) Parasites (D) DNA
56. Which one of the following is not a method of food preservation?
(A) Salting (B) Drying (C) Boiling (D) Pickling
57. A plant disease called citrus canker is caused by:
(A) Fungi (B) Virus (C) Protozoa (D) Bacteria
58. Rhizobium bacteria
(A) Help in digestion (B) Help in nitrogen fixation
(C) Causes diseases (D) All of these
59. Which of the following is an antibiotic?
(A) Yeast (B) Alcohol (C) Streptomycin (D) Sodium benzoate
60. Mode of transmission of chicken pox is?
(A) Mosquitos (B) Air (C) Water (D) Both (A) & (A)

