

# CBSE CLASS IX

## SA-2 2017

### SCIENCE

## SAMPLE PAPER

Time allowed: 3 hours Maximum Marks: 90 General Instructions: a) All

questions are compulsory.

- b) The question paper comprises of two sections, A and B. You are to attempt both the sections.
- c) Questions 1 to 3 in section A are one mark questions. These are to be answered in one word or in one sentence.
- d) Questions 4 to 6 in section A are two marks questions. These are to be answered in about 30 words each. e) Questions 7 to 18 in section A are three marks questions. These are to be answered in about 50 words each. f) Questions 19 to 24 in section A are five marks questions. These are to be answered in about 70 words each.
- g) Questions 25 to 33 in section B are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.
- h) Questions 34 to 36 in section B are based on practical skills. Each question is a two marks question.

#### Section A

1. Define atomicity.
2. What is an ion?
3. Define average power
4. In the hierarchy of classification, which grouping will have the smallest number of organisms with a maximum of characteristics in common and which will have the largest number of organisms?
5. Which wave property determines (a) loudness, (b) pitch?

osbincbse.com 6. If there is no atmosphere around the Earth, what will happen to its temperature?

7. Establish the relation for a wave that velocity = frequency  $\times$  wavelength.
8. State the difference between Power and energy?
9. What is SONAR? Write its working?
10. Why is atomic number is more important than atomic weight in predicting the chemical properties of elements?
11. Define valency by taking examples of silicon and oxygen.
12. What is classification? What is the need of classification? What is the basis of classification?
13. Explain giving reasons why:
  - (a) Balanced diet is necessary for maintaining health body.
  - (b) Health of an organism depends upon the surrounding environmental conditions.
14. An object of mass 40 kg is raised to a height of 5 m above the ground. What is its potential energy? If the object is allowed to fall, find its kinetic energy when it is half way down.
15. A person has a hearing range from 20 Hz to 20 kHz. What are the typical wavelengths of sound waves in air corresponding to these two frequencies? Take the speed of sound in air as 344 ms<sup>-1</sup>
16. In the force - displacement graph, calculate the work done during
  - (a) the interval m
  - (b) the interval m
17. Government officials often go from one house to another every year and request people to take their infants to the Pulse Polio booths to administer polio drops to them. However, in a particular colony there were six infants but only four were taken to the booth.  
Answer the following questions based on the above information:
  - (i) Why does the Government take active part in administering polio drops to all infants? (ii) What values are being ignored by people who do not take their infants to the pulse Polio booth?
  - (iii) Government officials go from house-to-house for promoting polio drops vaccination.  
Besides doing their office duty, which values are promoted through their actions?
18. Write in detail what happens when water gets polluted.
19. List any three reasons why you would think that you are sick and ought to see a doctor. If only one of these symptoms were present, would you still go to the doctor? Why or why not?

20. The Thallophyta, Bryophyta and Pteridophyta are called as 'Cryptogams'. Gymnosperms and Angiosperms are called as 'Phanerogams'. Discuss why. Draw one example of a gymnosperm.
21. A light and a heavy object have the same momentum, find out the ratio of their kinetic energies. Which one has a larger kinetic energy?
22. State the Postulates of Dalton Theory?
23. Represent graphically any two separate diagrams in each case:
- Two sound waves having the same amplitude but different frequencies.
  - Two sound waves having the same frequency but different amplitudes.
  - Two sound waves having different amplitudes and also different wavelengths.
24. How has industrialisation led to an increase in air pollution? What steps should be taken to check air pollution?

### Section B

25. What is the molecular formula for Calcium Hydroxide?
- (a)  $\text{Ca}(\text{OH})_2$       (b)  $\text{Ca OH}$   
(c)  $\text{Cu OH}$               (d)  $\text{Ca H}_2$
26. Isotopes of an element have
- (a) the same physical properties      (b) different chemical properties  
(c) different number of neutrons      (d) different atomic numbers.
27. Prokaryotic organism is found in kingdom.
- (a) protista      (b) fungi  
(c) monera              (d) plantae
28. 'Penicillin', a life saving antibiotic, was discovered by
- (a) Alexander Fleming (b) Edward Jenner  
(c) H.G. Khorana              (d) William Harvey
29. Which of the following quantities have same units?
- (a) Power and energy      (b) Power and work  
(c) work and energy      (d) None of the above
30. Helium has 4  
He has: 2

(a) 2 P+ and 2 n<sup>o</sup>(b) 2 P+ and 4 n<sup>o</sup>(c) 4 P+ and 2 n<sup>o</sup>

(d) none of these

31. Atomicity of chlorine and Argon is

(a) Diatomic and Monoatomic

(b) Monoatomic and Diatomic

(c) Monoatomic and Monoatomic

(d) Diatomic and Diatomic

32. Atomicity of fluorine is:

33. The branch of Biology dealing with classification is known as:

(a) Physiology (b) taxonomy

(c) Paleontology (d) mycology

34. If you go to hospital to meet your friend suffering from malaria, what are the chances of malaria spreading to you and your friends?

35. The potential energy of a freely falling object decreases progressively. Does this violate the law of conservation of energy? Why?

36. When we put our ear to a railway track, we can hear the sound of an approaching train even when the train is far off but its sound cannot be heard through air. Vs'hv?