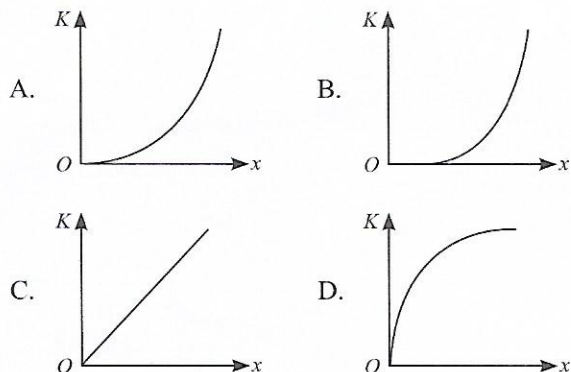


ACHIEVERS SECTION

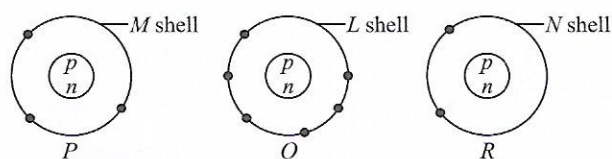
46. A body moves from rest with a constant acceleration. Which one of the following graphs represents the variation of its kinetic energy K with the distance travelled x ?



47. A car accelerates from rest at a constant rate 10 m/s^2 for some time after which it decelerates at constant rate 5 m/s^2 and then comes to rest. Total time elapsed is 15 s. Maximum velocity of the car is (i) while average velocity of the car during its deceleration is (ii). Distance travelled by the car at the instant when its velocity is half of its maximum value is (iii) or (iv).

	(i)	(ii)	(iii)	(iv)
A.	75 m/s	50 m/s	312.5 m	31.25 m
B.	50 m/s	25 m/s	31.25 m	312.5 m
C.	100 m/s	50 m/s	62.50 m	31.25 m
D.	50 m/s	25 m/s	62.50 m	625.0 m

48. Outer shell electronic configurations of three elements P , Q and R are given as :



Which of the following statements is/are incorrect?

- I. Q and R have the same valency.
- II. The decreasing order of atomic masses is $Q > P > R$.
- III. R can combine with Q to form a compound of the type RQ .

IV. P can combine with Q to form a compound of the type Q_2P_3 .

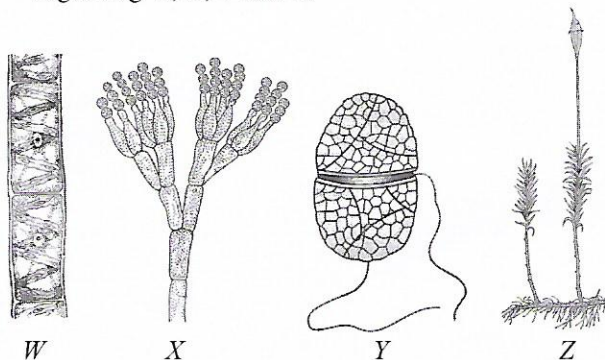
- A. II and IV only
- B. I and III only
- C. II only
- D. None of these

49. Read the given passage and select the correct option.

X is a gas which occurs both in the earth's upper atmosphere (stratosphere) and at earth's ground level. Y are the substances which react with X and destroy the same. Beijing protocol was held to lay down steps to reduce Y released by developing and developed countries. Destruction of X can lead to diseases like cancer in humans.

- A. X prevents the harmful UV radiations from reaching the earth and also functions as green house gas.
- B. Cooling devices like air conditioners and refrigerators contribute to increase in Y in the earth's atmosphere.
- C. Maximum effect of Y occurs due to release of active chlorine which remains functional for a long time.
- D. All of these

50. Identify the given figures and select the correct option regarding W , X , Y and Z .



- A. Stored food material in W could be glycogen whereas in X it could be starch.
- B. Genetic material in Y could be naked and circular whereas in Z it could be membrane bound and linear.
- C. Cell wall in X could be made up of chitin whereas in W , Y and Z it could be made up of cellulose.
- D. After fertilisation embryo is formed in W but it is not formed in Z .

SPACE FOR ROUGH WORK