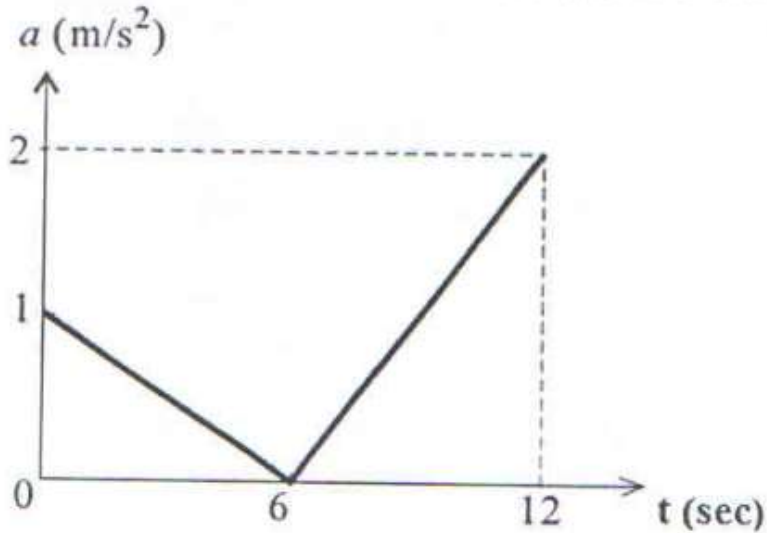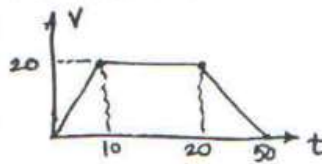c) The a-t diagram for the linear motion is shown in Fig. Construct velocity time [8] and displacement time diagrams for the motion assuming that the motion starts with initial velocity of 5 m/s from the starting point.

d) From (v-t) diagram find (i) distance travelled in 10 sec. (ii) total distance travelled in 50 sec. 04
(iii) Retardation.

b) The accl^n of the train starting from rest at any instant is given by the expression $a = \dfrac{8}{(v^2 + 1)}$ 06

where V is the velocity of train in m/s. Find the velocity of the train when its displacement is 20m and its displacement when velocity is 64.8 kmph.

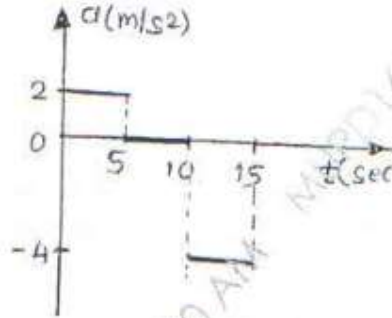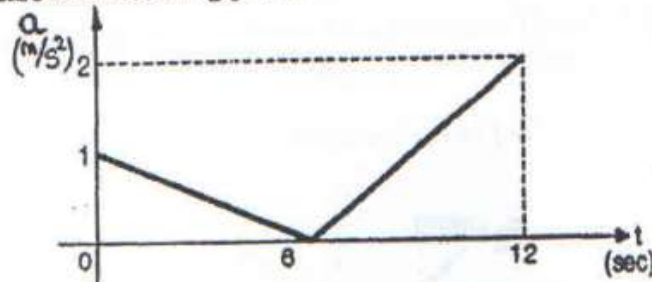(d) For the particle a-t diagram is shown in fig No. 3. Construct s-t and v-t [4] diagrams.

Fig No. 3
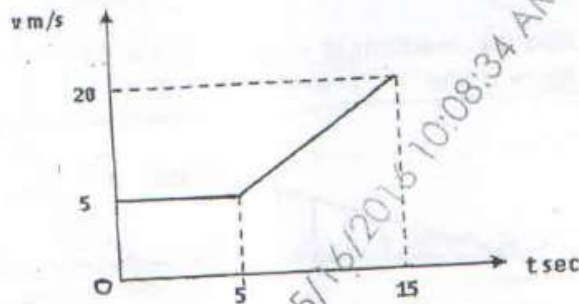
b. The acceleration-time diagram for linear motion is shown. Construct velocity-time diagram and displacement-time diagram for the motion assuming that the motion starts with initial velocity of 5m/s from starting point. [6]

b. For a vehicle moving along a straight line, v-t diagram is as shown in figure [6] below. Plot a-t & s-t diagrams for the given time period.
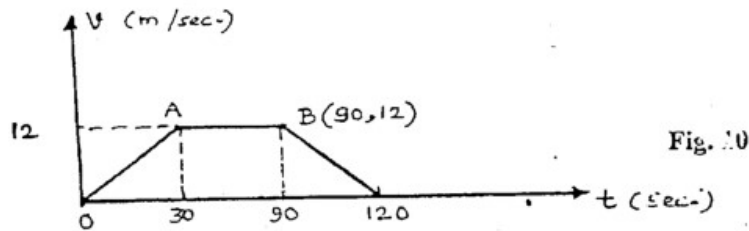
DEC 2015

b) A particle moves in a straight line with acceleration-time diagram shown in figure. Construct velocity-time diagram for the motion assuming that the motion starts with initial velocity of 5m/s from the starting point. Also determine its displacement at t=12 seconds. [6]
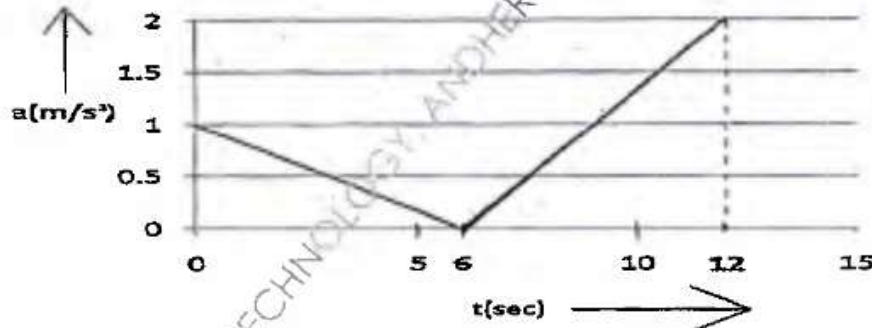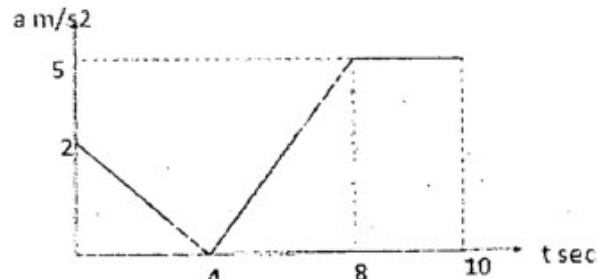

MAY 2015

b) Fig. 10 shows the v-t diagram for the motion of a train as it moves from station A to station B. 6
Draw a-t graph & find the average speed of the train & the distance between the stations.

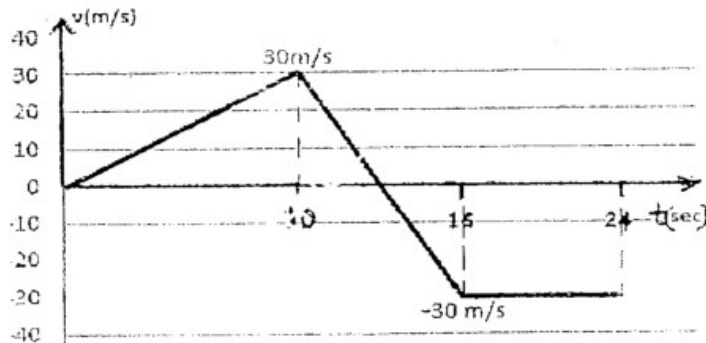Fig. 10

DEC 2014

b. A particle is projected with an initial velocity of 2m/s along a straight line. [6]
The relation between acceleration and time is given in the diagram. Draw v-t and s-t diagram

MAY 2014

c) A particle moves in a straight line with a velocity-time diagram shown in figure. If S= -25m at t=0, draw displacement-time and acceleration time diagrams for 0 to 24 seconds.   [6]
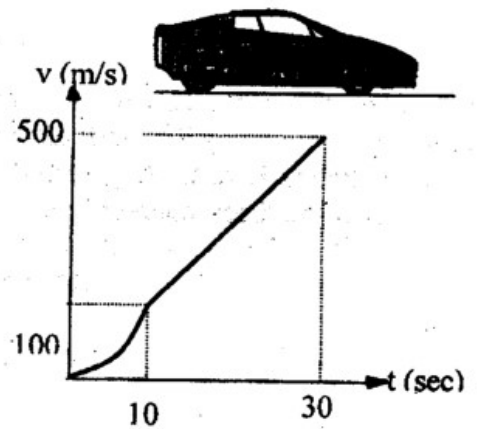

MAY 2013

(b) Explain x–t, v–t and a–t curves in Kinematics.   6

DEC 2010

5B) A car moves along a straight road such that its velocity is described by the graph shown in figure.
For the first 10 seconds the velocity variation is parabolic and between 10 seconds to 30 seconds the variation is linear. Construct the s-t and a-t graphs for the time period $0 \leq t \leq 30s$.   **(12 marks)**

MAY JUN 2010

(c) **Figure** shows an plot of a_x versus time for a particle moving along x-axis.   5
What is the speed and distance covered by the particle after 50 seconds ?