PHYS 215-Mechanics I-Question Bank 8

2019-2020

Full name:..A

Answer the questions below.

1
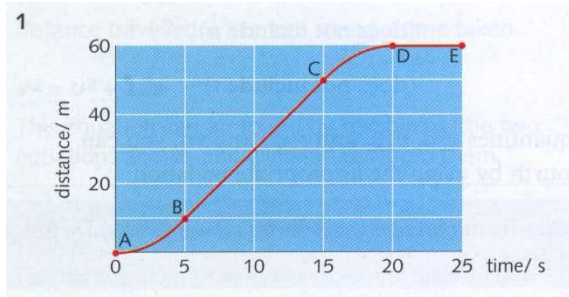
The distance–time graph above is for a motor cycle
travelling along a straight road.

a) What is the motor cycle doing between points D
and E on the graph?

b) Between which points is it accelerating?

c) Between which points is its speed steady?

d) What is this steady speed?

e) What is the distance travelled between A and D?

f) What is the average speed between A and D?

a)

b)

c)

d)

e)

f)

2
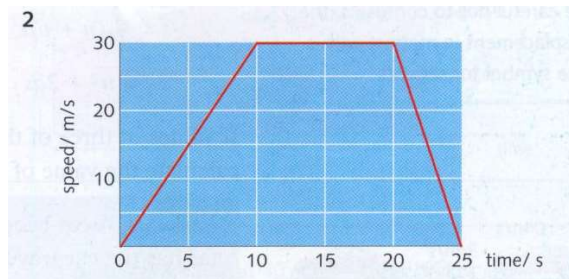
The speed–time graph above is for another motor
cycle travelling along the same road.

a) What is the motor cycle's maximum speed?

b) What is the acceleration during the first 10 s?

c) What is its deceleration during the last 5 s?

d) What distance is travelled during the first 10 s?

e) What is the total distance travelled?

f) What is the time taken for the whole journey?

g) What is the average speed for the whole journey?

a)

b)

c)

d)

e)

f)

g) Plot the acceleration – time graph of the motor cycle.

3- A bycycle initially at rest starts to move with a constant acceleration of 4 m/s². If it accelerates for 20 seconds,

a) Sketch the diagram of the motion of the bicycle.

b) Write down the equations.

c) How far will it move during this time?

d) What will be its final velocity?

e) What is the avarage velocity of the car during this motion?