SECTION – 1 (PHYSICS)

1.

Newton's first law of motion defines the inertia of body. It states that every body has a tendency to remain in its state (either rest or motion) due to its inerta.

2.

(2)

3.

$F_{max} = 5 + 10 = 15N$ and $F_{min} = 10 - 5 = 5N$

Range of resultant $5 \le F \le 15$

4.

No displacement is there.

5.

$W = \vec{F}.\vec{s} = (3\hat{i} + 4\hat{j}).(3\hat{i} + 4\hat{j}) = 9 + 16 = 25\,J$

6.

Total mass = $(50 + 20) = 70\ kg$

Total height = $20 \times 0.25 = 5m$

$\therefore$ Work done = $mgh = 70 \times 9.8 \times 5 = 3430\ J$

7.

Size of image formed by a plane mirror is same as that of the object. Hence its magnification will be 1.

8.

Subtract the given time from 11 : 60

9.

(4)

10.

When object is placed. Between focus and pole, image formed is erect, virtual and enlarged.

SPACE FOR ROUGH WORK

SECTION – 2 (CHEMISTRY)

11. (4)

12. (1)

13. (3)

14. (3)

15. (4)

16. (2)

17. (1)

18. (4)

19. (1)

20. (3)

SPACE FOR ROUGH WORK

SECTION – 3 (BIOLOGY)

21. (3)

22. (4)

23. (4)

24. (1)

25. (1)

26. (4)

27. (2)

Solution

Residual, persistent nucellus is called perisperm and the seed is called perispermic seed.
Example: Beet, black papper

28. (2)

29. (3)

Solution: Non-membrane bound: • centrosome
• Ribosome
Single/Unit membrane bound: • Lysosome
• Peroxisome

30. (3)

31. (3)

Solution:

Statement II is definition of Geitonogamy

32. (2)

33. (1)

34. (1)

35. (3)

36. (3)

37. (1)

38. (3)

39. (3)

Solution: $2n = 90$
$\therefore n = 45$
Endosperm is a nutritive tissue in angiosperms and it is triploid ($3n$)
$\therefore 3n = 3(45) = 135$

40. (2)