

## MHT CET 2024 PCB April 23 Shift 2 Answer Key

1. Find the ratio of K.E. and P.E. when particle performing SHM when it is at  $(1/n)$  times of its amplitude from mean position.

- A  $n^2/2$
- B  $n^2 + 1$
- C  $n^2 - 1$
- D  $n^2$

Answer: C

2. Two sphere are given that  $r = 10$  cm and distance between them is 20 cm and axis is passing between the middle of the distance what is the moment of inertia?

Answer:  $14/5 MR^2$

3. Safety speed for vehicle moving along curved horizontal banked road.

$$v = \sqrt{rg \tan \theta}$$

Answer:

4. In hydrosere succession, which stage comes just before the sedge meadow stage ?

4.

- A** Rooted submerged stage
- B** Phytoplankton stage
- C** Reed swamp stage
- D** Climax stage

Answer: C

5. The maximum kinetic energy of the photoelectrons varies.

5.

$$K.E = h\nu - \phi_0$$

$$K.E \propto \nu$$

$$K.E \propto \frac{1}{\lambda}$$

Answer:

If  $L$  is the inductance and  $R$  is the resistance then the unit of  $L/R$  is:

6.

Ans = Sec.

Answer:

A lift weighing 250 kg is to be lifted up at a constant velocity of 0.20 m what would be the minimum horse power of the motor to be used.

7.

Answer: 500 watt

Which of the following causes typhoid fever ?

**A** *Salmonella typhi*

**B** Mosquito

**C** *Plasmodium*

**D** Nicotine

8.

Answer: A

9.

Which scientists are credited with proposing the transpiration pull theory, also known as the cohesion-tension theory?

- A** Charles Darwin and Francis Darwin
- B** Stephen Hales
- C** Henry Dixon and John Joly
- D** Ernst Münch

Answer: C

10.

Between which among the following, the relationship is not an example of \_\_\_\_\_?

- A** Orchid and the tree on which it grows
- B** Cattle egret and grazing cattle
- C** Sea anemone and clown fish
- D** Female wasp and fig species

Answer: D

11.

How do most arthropods circulate nutrients and gases throughout their bodies ?

- A** Open circulatory system
- B** Closed circulatory system
- C** No circulatory system
- D** Diffusion through body tissues

Answer: A

What is the movement of cytoplasm within a cell called ?

- A** Endocytosis
- B** Exocytosis
- C** Cytokinesis
- D** Cytoplasmic streaming

12.

Answer: D

How many times does oxidation occur in the Krebs cycle of cellular respiration ?

13.

- A** Once
- B** Twice
- C** Three times
- D** Four times

Answer: D

During which phase of its life cycle does the Plasmodium parasite enter the human body when a female Anopheles mosquito bites a human ?

14.

- A** Sporozoite phase
- B** Merozoite phase
- C** Gametocyte phase
- D** Trophozoite phase

Answer: D

Which of the following structures is responsible for the production of sperm in the male reproductive system ?

- A** Prostate gland
- B** Seminal vesicles
- C** Epididymis
- D** Testes

15.

**Answer: D**

Joint forest management concept was introduced in India during \_\_\_\_\_.

16.

- A** 1960s
- B** 1970s
- C** 1980s
- D** 1990s

**Answer: D**