Q. B. Series: A

Q. B. Number: 272029

## CET for 10th Based Paramedical Diploma Courses (FMPHW & MMPHW) - 2024 QUESTION BOOKLET

**INSTRUCTIONS** 

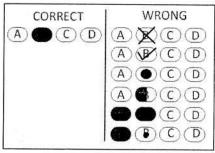
Maximum Time Allowed: 02 Hours Negative Marking: 0.25 Marks

No. of Questions: 120 Maximum Marks: 120

- 1) Check the Booklet thoroughly: In case of any defect Misprint, Missing question(s), Missing page, Blank page, Damaged or Defaced page, or duplication of question(s) / Page(s), get the Booklet changed with the Booklet of the same series from the Room Invigilator. No complaint shall be entertained after the Entrance Test is over.
- Write your Roll Number and the OMR Answer Sheet Number on the Question Booklet.
- 3) Mark carefully your Roll Number, Question Booklet Number and Question Booklet Series on the OMR Answer Sheet and sign at the appropriate place. Candidates shall be personally responsible for any mistake committed in making these entries in the OMR Answer Sheet. Board shall under no circumstances be responsible for any such mistake.
- Strictly follow the instructions given by the Centre Supervisor / Room Invigilator and those given on the Question Booklet.
- 5) Candidates are not allowed to carry any papers, notes, books, calculators, cellular phones, scanning devices, pagers etc. to the Examination Hall. Any candidate found using, or in possession of, such unauthorized material or indulging in copying or impersonation or adopting unfair means / reporting late / without Admit Card will be debarred from the Entrance Test.
- 6) Please mark the right responses on the OMR Sheet with ONLY a Blue/Black ball point pen. Use of eraser, whitener (fluid) and cutting on the OMR Answer Sheet is NOT allowed.
- 7) The test is of objective type, containing multiple choice questions (MCQs). Each objective question is followed by four responses. You are required to choose the correct/best response and mark your response on the OMR Answer Sheet and NOT on the Question Booklet.
- There will be negative marking of 0.25 marks for every wrong answer.

Answer Sheet Number:

9) For marking response to a question, completely darken the CIRCLE so that the alphabet inside the CIRCLE is not visible. Darken only ONE circle for each question. If you darken more than one circle, it will be treated as a wrong answer. The CORRECT and the WRONG method of darkening the CIRCLE on the OMR Answer Sheet are shown below.



- 10) Please be careful while marking the response to questions. The response once marked cannot be changed and if done shall be treated as a wrong answer.
- 11) In view of the limited time, do NOT waste your time on a question which you find difficult during the test.
- 12) DO NOT make any stray or faint mark anywhere in or around the oval on the OMR Answer Sheet. It will be read as double shading and will make answer invalid. DO NOT fold or wrinkle the OMR Answer Sheet.
- 13) Rough work MUST NOT be done on the OMR Answer Sheet. Use rough page of your Question Booklet for this purpose.
- 14) Candidates are provided carbonless OMR Answer Sheet, having original copy and candidate's copy. After completing the examination, candidates are directed to fold at perforation on the top of the sheet, tear it to separate original copy and candidate's copy and then hand over the original copy of OMR Answer Sheet to the Room Invigilator and retain candidate's copy.

DO NOT OPEN THE SEAL OF THIS BOOKLET UNTIL TOLD TO DO SO

## PHYSICS (1-40)

- Q1. Image formed by plane mirror is
  - (a) Real and erect
- (b) Real and inverted
- (c) Virtual and erect
- (d) Virtual and inverted
- Q2. An object is placed at a distance of 40cm in front of a concave mirror of a focal length of 20 cm. The image produced is:
  - (a) virtual and inverted
  - (b) Real and erect
  - (c) Real, inverted and of the opposite size as that of the object
  - (d) Real, inverted and of the same size as that of the object
- Q3. A full length of the image of a distant tall building can definitely be seen using:
  - (a) a concave mirror
- (b) a convex mirror
- (c) a plane mirror
- (d) none of above
- Q4. What is the relationship between the radius of curvature and focal length of the mirror?
  - (a) R = 2F
- (b) R = 3F
- (c) 2R = F
- (d)  $R = \frac{1}{2} F$
- Q5. Which of the following statement is wrong while applying sign conventions for mirrors?
  - (a) Pole of mirror is considered as origin of X-axis
  - (b) Height of object measured above principal axis should be negative
  - (c) Objects should be placed on left side of the mirror.
  - (d) All the distances are measured from the pole of the mirror.
- Q6. The highest refractive index is of:
  - (a) Glass
- (b) Water
- (c) Diamond
- (d) Ruby
- Q7. The unit of power of a lens is:
  - (a) Dioptre
- (b) Metre
- (c) Watt
- (d) Joule
- Q8. Which of the following statements is true regarding the focal length of a convex lens?
  - (a) It is always positive
  - (b) It is always negative
  - (c) It can be either positive or negative
  - (d) It is always zero
- Q9. Power of the lens is -2.0D its focal length is
  - (a) 4m
- (b) -4m
- (c) -0.5m
- (d) -5m

- Q10. A ray of light strikes a glass slab at 90°. The angle of incidence is:
  - (a)  $90^{\circ}$
  - (b) Zero
  - (c) Less than, but not zero
  - (d) None of these
- Q11. Sunlight is passed through a transparent medium having very fine particles. These particles scatter light. Which among the given components of light undergoes more scattering?
  - (a) Yellow
- (b) Blue
- (c) Red
- (d) Orange
- Q12. Which part of the eye controls the amount of light that enters the eye?
  - (a) Pupil
- (b) Cornea
- (c) Retina
- (d) Lens
- Q13. Which of the following conditions is caused by the inability of the eye to focus light properly onto the retina?
  - (a) Cataract
- (b) Myopia
- (c) Astigmatism
- (d) Glaucoma
- Q14. The optical phenomena, twinkling of stars, is due to
  - (a) Atmospheric reflection
  - (b) Total reflection
  - (c) Atmospheric refraction
  - (d) Total refraction
- Q15. Which of the following structures in the eye is responsible for converting light into electrical signals that are sent to the brain?
  - (a) Cornea
- (b) Lens
- (c) Retina
- (d) Pupil
- Q16. Which of the following colours is the least deviated on passing through a prism:
  - (a) Red
- (b) Yellow
- (c) Violet
- (d) Indigo
- Q17. The ratio of real depth to apparent depth is called:
  - (a) Refractive index
  - (b) Critical angle
  - (c) Lateral displacement
  - (d) None
- Q18. The phenomenon responsible for the formation of a rainbow is:
  - (a) Reflection
  - (b) Refraction
  - (c) Dispersion
  - (d) Total internal reflection

(b) Newton's law

(d) Omega

(a) Volt

(c) Pascal

- O28. An electric heater is rated at 2 Kw. Electrical energy costs Rs 4 per KWH. What is the cost of using the heater for 3 hours?
  - (a) Rs. 12
- (b) Rs. 24
- (c) Rs. 36
- (d) Rs. 48
- Q29. A car headlight bulb working on a 12 V car battery draws a current of 0.5 A. The resistance of the light bulb is:
  - (a)  $0.5 \Omega$
- (b) 6 Ω
- (c)  $12 \Omega$
- (d)  $24 \Omega$
- Q30. What is the maximum resistance which can be made using five resistors each of  $1/5 \Omega$ ?
  - (a)  $1/5 \Omega$
- (b)  $10 \Omega$
- (c) 5 Ω
- (d)  $1\Omega$
- Q31. Which of the following is the property of a magnetic field?
  - (a) It can change the direction of a moving charged particle
  - (b) It can change the speed of a moving charged particle
  - (c) It can create an electric field
  - (d) It can create a gravitational field
- Q32. Which of the following is the SI unit of magnetic field?
  - (a) Joule
- (b) Volt
- (c) Ampere
- (d) Tesla
- Q33. Which of the following is the direction of the force experienced by a current-carrying conductor placed in a magnetic field?
  - (a) Along the direction of the current
  - (b) Opposite to the direction of the current
  - (c) Perpendicular to the direction of the current and the magnetic field
  - (d) Parallel to the direction of the current and the magnetic field
- Q34. An electric current can be produced in a closed loop:
  - (a) by connecting it to a battery, but not by moving a magnet near it.
  - (b) by moving a magnet near the loop, but not by connecting a battery.
  - (c) by connecting it to a battery, as well as by moving a magnet near it.
  - (d) neither by connecting a battery nor by moving a magnet near it.

- Q35. Two conducting wires of the same material and of equal lengths and equal diameters are first connected in series and then parallel in a circuit across the same potential difference. The ratio of heat produced in series and parallel combinations would be:
  - (a) 1:2
- (b) 2:1
- (c) 1:4
- (d) 4:1
- Q36. The frequency of direct current (DC) is:
  - (a) 0 Hz
- (b) 50 Hz
- (c) 60 Hz
- (d)100 Hz
- Q37. In an electric motor, the direction of current in the coil changes once in each:
  - (a) Two rotations
  - (b) One rotation
  - (c) Half rotation
  - (d) One-fourth rotation
- Q38. An electric motor of power 4000W is to be operated at main of 250v. Find the current drawn by the motor.
  - (a)15A
- (b) 17A
- (c)16A
- (d) 18A
- Q39. An electric shock may not cause due to
  - (a) damaged or poor insulation of wire
  - (b) touching the appliance with wet hand
  - (c) earthing of appliance
  - (d) no fuse provided with the appliance
- Q40. An electric bulb is rated 220 V and 100 W. When it is operated on 110 V, the power consumed will be:
  - (a) 100 W
- (b) 75 W
- (c) 50 W
- (d) 25 W

## Chemistry (41-80)

- Q41. Which of the following statements about the given reaction are correct?
  - $3\text{Fe (s)} + 4\text{H}_2\text{O (g)} \rightarrow \text{Fe}_3\text{O}_4 (\text{s)} + 4\text{H}_2 (\text{g})$
  - (i) Iron metal is getting oxidised
  - (ii) Water is getting reduced
  - (iii) Water is acting as reducing agent
  - (iv) Water is acting as oxidising agent
  - (a) (i), (ii) and (iii)
- (b) (ii), (iii) and (iv)
- (c) (i), (ii) and (iv)
- (d) (i), (iii) and (iv)
- Q42. When Ag is exposed to air it gets a black coating of:
  - (a) AgNO<sub>3</sub>
- (b) Ag<sub>2</sub>S
- (c) Ag<sub>2</sub>O
- (d) Ag<sub>2</sub>CO<sub>3</sub>

- Q43. In the double displacement reaction between aqueous potassium iodide and aqueous lead nitrate, a yellow precipitate of lead iodide is formed. While performing the activity if lead nitrate is not available, which of the following can be used in place of lead nitrate?
  - (a) Lead sulphate (insoluble)
  - (b) Lead acetate
  - (c) Ammonium nitrate
  - (d) Potassium sulphate
- Q44. What type of chemical reactions take place when electricity is passed through water?
  - (a) Displacement
  - (b) Combination
  - (c) Decomposition
  - (d) Double displacement
- Q45. The condition produced by aerial oxidation of fats and oils in foods marked by unpleasant smell and taste is called:
  - (a) antioxidation
  - (b) reduction
  - (c) rancidity
  - (d) corrosion
- Q46. In which of the following chemical equations, the abbreviations represent the correct states of the reactants and products involved at reaction temperature?
  - (a)  $2H_2(1) + O_2(1) \rightarrow 2H_2O(g)$
  - (b)  $2H_2(g) + O_2(l) \rightarrow 2H_2O(l)$
  - (c)  $2H_2(g) + O_2(g) \rightarrow 2H_2O(l)$
  - (d)  $2H_2(g) + O_2(g) \rightarrow 2H_2O(g)$
- Q47. In a chemical reaction, the substances present before the reaction starts are called:
  - a) Reactants
  - b) Products
  - c) Catalysts
  - d) Chemicals
- Q48. Galvanization is a method to:
  - (a) Protect the iron metal from corrosion
  - (b) Extract iron from its ore
  - (c) Protect food from rancidity
  - (d) Improve the ductility property of the metal
- Q49. Which of the following are exothermic processes?
  - (i) Reaction of water with quick lime
  - (ii) Dilution of an acid
  - (iii) Evaporation of water
  - (iv) Sublimation of camphor (crystals)
  - (a) (i) and (ii)
- (b) (ii) and (iii)
- (c) (i) and (iv)
- (d) (ii) and (iv)

(b) Glycerol(c) Methanol

(d) Sodium hydroxide

Q85.

(a) cytoplasm

(c) chloroplast

blue. Excess addition of which of the following

solution would reverse the change?

(c) Ammonium hydroxide solution

(a) Baking powder

(d) Hydrochloric acid

(b) Lime

The breakdown of pyruvate to give carbon

(b) mitochondria

(d) nucleus

dioxide, water and energy takes place in:

- Q86. Name the substances whose build up in the muscles during vigorous physical exercise may cause cramps?
  - (a) Ethanol + Carbon dioxide + Energy
  - (b) Lactic acid + Energy
  - (c) Carbon dioxide + Water + Energy
  - (d) Pyruvate
- Q87. A blood vessel which pumps the blood from the heart to the entire body:
  - (a) artery
- (b) capillary
- (c) Vein
- (d) Haemoglobin
- Q88. Name the tube which connects the kidneys to the urinary bladder.
  - (a) Urethra
- (b) Nephron
- (c) Tubule
- (d) Ureter
- Q89. Movement of sunflower in accordance with the path of Sun is due to:
  - (a) Chemotropism
- (b) Geotropism
- (c) Phototropism
- (d) Hydrotropis
- Q90. Any change in the environment to which an organism responds is called:
  - (a) stimulus
- (b) coordination
- (c) response
- (d) hormone
- Q91. Which nerves transmit impulses from the central nervous system towards muscle cells?
  - (a) Sensory nerves
- (b) Motor nerves
- (c) Relay nerves
- (d) Cranial nerves
- Q92. Main function of cerebrum is:
  - (a) thinking
- (b) hearing
- (c) memory
- (d) balancing
- Q93. The secretion of which hormone leads to physical changes in the body when you are 10-12 years of age?
  - (a) Oestrogen from testes and testosterone from ovar.
  - (b) Estrogen from adrenal gland and testosterone from pituitary gland.
  - (c) Testosterone from testes and estrogen from ovary.
  - (d) Testosterone from thyroid gland and estrogen from pituitary gland.
- Q94. A diabetic patient suffers from deficiency of which hormone?
  - (a) Thyroxine
- (b) Testosterone
- (c) Oestrogen
- (d) Insulin

- Q95. Which of the following glands is responsible for the regulation of metabolism?
  - (a) Thyroid gland
  - (b) Adrenal gland
  - (c) Pituitary gland
  - (d) Pancreas
- Q96. Which of the following is NOT a reflex action?
  - (a) Blinking of eyes
  - (b) Coughing
  - (c) Sneezing
  - (d) Shivering
- Q97. A feature of reproduction that is common to Amoeba, Yeast and Spirogyra is that:
  - (a) they reproduce asexually
  - (b) they are all unicellular
  - (c) they reproduce only sexually
  - (d) they are all multicellular
- Q98. Vegetative propagation refers to formation of new plants from:
  - (a) stem, flowers and fruits
  - (b) stem, leaves and flowers
  - (c) stem, roots and flowers
  - (d) stem, roots and leaves
- Q99. In human males, the testes lie in the scrotum, because it helps in the:
  - (a) process of mating
  - (b) formation of sperms
  - (c) easy transfer of gametes
  - (d) secretion of estrogen
- Q100. Among the following statements given below, choose the one which is true in the case of sexual reproduction of flowering plants.
  - (i) Fertilisation is a compulsory event
  - (ii) Results in forming of zygote
  - (iii) Offsprings formed are clones
  - (iv) It requires two types of gametes
  - (a) (i) and (iv)
- (b) (i), (ii) and (iii)
- (c) (i), (ii) and (iv)
- (d) (ii), (iii) and (iv)
- Q101. Which of the following is an accessory component of the female reproduction system?
  - (a) Pudendum
  - (b) Vulva
  - (c) Mammary Gland
  - (d) Vagina

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|---|---|--|--|--|
|   | Q102. Along the path of the vas-deferens the secretions of which gland provide nutrition to |  |  |  |
|   |   |  |  |  |
| the sperms?   |   |  |  |  |
|   |   | (a) Prostate glands  |  |  |
|   |   | (b) Seminal vesicles   |  |  |
|   |   | (c) Scrotum  |  |  |
|   |   | (d) Urinary bladder  |  |  |
|   | Q103.   | Which among the follo  | hich among the following diseases is not |  |
|   |   | sexually transmitted?  |  |  |
|   |   | (a) Syphyllis  | (b) Hepatitis                            |  |
|   |   | (c) HIV-AIDS   | (d) Gonorrhea                            |  |
|   | Q104.   |  |  |  |
|   |   | called:  |  |  |
|   |   | (a) menstruation   |  |  |
|   |   | (b) reproduction   | 39.3                                     |  |
|   |   | (c) insemination   |  |  |
|   |   | (d) ovulation  |  |  |
|   | O105.   | Which of the following   | g is NOT a mechanism of                  |  |
|   |   | genetic variation?   |  |  |
|   |   | (a) Mutation   |  |  |
|   |   | (b) Sexual reproductio   | n  |  |
|   |   | (c) Genetic drift  |  |  |
|   |   | (d) Gene flow  |  |  |
|   | Q106.   | The theory of natural  | selection was proposed                   |  |
| by:   |   |  |  |  |
| (a) Gregor Mende  |   |  |  |  |
| <ul><li>(b) Charles Darwin</li><li>(c) Thomas Malthus</li></ul> |   |  |  |  |
|   |   |  |  |  |
|   |   | (d) Jean-Baptiste Lama   | rck                                      |  |
|   | O107.   | A character which is e   | xpressed in hybrid is                    |  |
| always  |   |  |  |  |
|   |   | (a) Dominant   |  |  |
|   |   | (b) Recessive  |  |  |
|   |   | (c) Co-dominant  |  |  |
|   |   | (d) Epistatic  |  |  |
|   | O108  | Some dinosaurs had fe  | athers although they                     |  |
|   | Q100.   |  | have feathers that help                  |  |
| them to fly. In the context of evolution means that             |   |  |  |  |
|   |   | The state of the s |  |  |
|   |   | (a) Reptiles have evolv  | ved from birds                           |  |
| (b) There is no evolutionary com                                |   |  |  |  |
|   |   | between reptiles a   |  |  |
|   |   | (c) Feathers are homol   |  |  |
|   |   | structures   |  |  |

(d) Birds have evolved from reptiles

- Q109. Which of the following is an example of homologous structures?

  (a) Wings of a bird and wings of a bat
  (b) Wings of a bird and fins of a fish
  (c) Wings of a bird and arms of a human
  (d) Wings of a bird and legs of a grasshopper

  Q110. A Mendelian experiment consisted of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny
- Q110. A Mendelian experiment consisted of breeding tall pea plants bearing violet flowers with short pea plants bearing white flowers. The progeny all bore violet flowers but almost half of them were short. This suggests that the genetic make —up of the tall parent can be depicted as:
  - (a) TTWW
- (b) TTww
- (c) TtWW
- (d) TtWw
- Q111. Which of the following is the vestigial organ in man?
  - (a) Vermiform appendix
  - (b) Cervical vertebra
  - (c) Atlas
  - (d) Soft palate
- Q112. Which of the following is the connecting link between the birds and reptiles?
  - (a) Dinosaurs
  - (b) Mammoths
  - (c) Archaeopteryx
  - (d) Pliohippus
- Q113. Which of the following does not form a part of particulate matter?
  - (a) Dust
  - (b) Fly ash
  - (c) Aerosols
  - (d) Nitric Oxide
- Q114. The process of converting atmospheric nitrogen into a usable form by plants is called:
  - (a) Nitrogen fixation
  - (b) Denitrification
  - (c) Nitrification
  - (d) Ammonification
- Q115. Which of the following is an example of a natural ecosystem?
  - (a) A farm
  - (b) A park
  - (c) A city
  - (d) A shopping mall

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|--|----------|
| <ul> <li>Q116. What will happen if deer is missing from the food chain: grass → deer → Tiger?</li> <li>(a) the population of tiger will increase</li> <li>(b) tiger will start eating grass</li> <li>(c) the population of grass decrease</li> <li>(d) population of tiger decrease and grass increases</li> </ul> |          |
| Q117. Which is non biodegradable?  (a) wood, paper, leather  (b) polythene, detergent, grass  (c) plastic, detergent, grass  (d) plastic, bakelite, DDT  |          |
| Q118. In an ecosystem, the 10% of energy available for transfer from one trophic level to next is in the form of  (a) heat energy (b) light energy (c) mechanical energy (d) chemical energy   |          |
| Q119. In trophic level, the greatest number is of  (a) producers (b) Primary consumers (c) Secondary consumers (d) Tertiary consumers  |          |
| Q120. Edaphic factors include  (a) Abiotic components  (b) Biotic components  (c) Producers  (d) Consumers   |          |
|  | 21       |
|  |          |
|  |          |