

**FEDERAL MEDICAL AND DENTAL COLLEGE ISLAMABAD**

**ENTRANCE TEST - 2012**

**Time Allowed: 150 Minutes**

**Total MCQs = 100**

**Instructions:**

- i. Read the instructions on the MCQ Response Form carefully.
- ii. Choose the Single Best Answer for each question.
- iii. Candidates are strictly prohibited from giving any identification mark except Roll No. & Signature in the specified columns only.

**COMPULSORY QUESTION FOR IDENTIFICATION**

**Q-ID. What is the color of your Question Paper?**

- A) WHITE                      C) PINK  
B) BLUE                        D) GREEN

**Ans:** Color of your question Paper is blue. Fill the Circle corresponding to letter 'B' Against 'ID' in your MCQ response form (Exactly as shown in the diagram).

**ENGLISH**

**1. Ambition is one of those is never satisfied.**

- (A) Ideas                      (B) Fancies                      (C) Energies                      (D) Passions

**2. The opponents were out numbered, but still the commander refused to**

- (A) Out                      (B) Way                      (C) Over                      (D) In

**3. Spot the error:**

The dean of this college is a good friend of me.

- A      B                      C                      D

**4. Spot the error:**

There have been heavy rainfall yesterday.

- A      B                      C                      D

**5. Choose similar meanings: Barbarian.**

- (A) Uncivilized                      (B) Civilized                      (C) Cultured                      (D) Vagabond

6. **Choose opposite meaning: Uncertain.**  
 (A) Vague (B) Doubtful (C) Sure (D) Clownish
7. **Choose the opposite meaning: Quote.**  
 (A) Cite (B) Analyze (C) Saying (D) Feel
8. **He was very polite.....me.**  
 (A) To (B) With (C) On (D) For

**Read the passage to answer the question: 9-10.**

Doctors are people who examine other people in their clinics. When patients visit them, the doctors follow a certain procedure. They take the pulse, thump the chest and listen to the heart beats through the stethoscope, and perhaps a miniature rubber tyre is put around the patient's arm and is blown up to check what is called blood pressure

9. **Who are the other people whom doctors examine?**  
 (A) Men (B) Women (C) Patients (D) Children
10. **Patients visit doctors means:**  
 (A) They address them (C) They visit their homes  
 (B) They go to them as patients (D) They make courtesy calls on them

### PHYSICS

11. **Two masses of 7 kg and 3kg respectively are hanging on a frictionless pulley. Calculate the acceleration due to gravity.**  
 (A)  $1 \text{ ms}^{-2}$  (B)  $2 \text{ ms}^{-1}$  (C)  $3 \text{ ms}^{-2}$  (D)  $4 \text{ ms}^{-2}$  (E)  $5 \text{ ms}^{-2}$
12. **A body is moving upward with a velocity of  $500 \text{ m/sec}^2$ . What will be the height?**  
 (A) 12.7 km (B) 13.7 km (C) 15 km (D) 16 km
13. **A ball is thrown vertically upward with a velocity of 98 m/s. How high does the ball rise?  $g = 9.8 \text{ m/sec}^2$ .**  
 (A) 360m (B) 380m (C) 490m (D) 510m
14. **Which quantity can be described in terms of only two base quantities?**  
 (A) Current (B) Charge (C) Force (D) Temperature
15. **If in a parallel plate capacitor we insert a metal sheet of half the thickness as compared with the spacing between the plates of the capacitor, the capacitance becomes:**  
 (A) % (B) | (C)  $2c$  (D)  $4c$

16. At given  $t$  taken a body at rest which then moves with an acceleration, after 3sec, its momentum:
- (A) 2      (B) 3      (C) 1      (D) 0.5
17. Which pair includes a scalar quantity and a vector quantity?
- (A) Kinetic energy and momentum      (B) Potential energy and work  
(C) Velocity and acceleration      (D) Weight and force
18. A stone is whirled, it experiences an inward force by string which is:
- (A) Centrifugal force      (B) Proportional to square of speed  
(C) Tangent      (D) Inverse of square of speed
19. One volt can be defined as:
- (A) One joule work done in moving unit positive charge from one point to another  
(B) Ratio of energy dissipated at one and other point  
(C) Ratio of power dissipated at one and other point  
(D) All of these
20. Work done by a constant source of 1Kw power that is 1000 J per sec in one hour is:
- (A) Kwh      (B) Watt      (C) Watt hour      (D) M Watt
21. The focal length ( $f = 10\text{cm}$ ). At what distance object should be placed to get an image twice size of object?
- (A) 15cm      (B) 20cm      (C) 25cm      (D) 30cm
22. In diffraction experiment, something done by moving apparatus away from screen such that plane wavelengths obtained. This describes:
- (A) Michelson diffraction      (B) Newton's diffraction  
(C) Einstein's diffraction      (D) None of the above
23. Which of the following electromagnetic phenomenon wave nature is not enough to explain?
- (A) Photoelectric effect      (B) Interference  
(C) Diffraction      (D) Polarization
24. A freely falling objects is an example of:
- (A) Newton's first law      (B) Newton's 2nd law  
(C) Archimedes principle      (D) All of these

25. **If resulting intensity is greater than individual intensities of two waves then it is:**  
 (A) Constructive interference (B) Destructive interference  
 (C) Instinctive interference (D) None
26. **For 0 to 10 degree Celsius rise in temperature, volume of water will:**  
 (A) Increase (B) Decreases  
 (C) First increases then decreases (D) No effect
27. **In an organ pipe, if a person blows it fast then Q what change will occurs in sound waves?**  
 (i) speed (ii) Amplitude (iii) Frequency (iv) Intensity  
 (A) I and II (B) I only (C) III only (D) I, II, III and IV
28. **A gas has a volume of 500ml at 760 torr. What will be the pressure if the volume is reduced to 300ml.**  
 (A) 1266.67 torr (B) 1366.67 torr (C) 1566 torr (D) 1866 torr
29. **A student calculates the result of an experiment as 1.65, 1.72 and 1.89. But when he checks its answer comes out to be 2.35. What would it be called?**  
 (A) Precision and no accuracy (B) No precision but accurate  
 (C) No accuracy but precise (D) Accurate and precise
30. **Heating a gas at constant volume will cause:**  
 (A) Increase in temperature  
 (B) Increase in temperature and internal energy  
 (C) Increase in internal energy  
 (D) Decrease in internal energy and increase in temperature
31. **Light passes through two parallel slits and falls on a screen. The pattern produced is due to interference and:**  
 (A) Reflection (B) Refraction  
 (C) Polarization (D) Diffraction
32. **A racing car accelerates uniformly through three gears, changes with the following average speed: 20 for 25, 40 for 2.05, 60 for 6 sec what is the over all average speed of the car?**  
 (A) 12 m/sec (B) 13.3 m/sec (C) 40 m/sec  
 (D) 48 m/sec (E) 37

33. **Radiations the chief method of energy transfer:**  
 (A) From the sun to an earth satellite  
 (B) From a gas flame to water in a tea Kettle  
 (C) From a soldering iron to metals being soldered.  
 (D) From water to an ice cube floating on it.  
 (E) From materials to surrounding air
34. **A Rocket moves according to the principle of conservation of:**  
 (A) Mass (B) Force (C) Energy (D) Momentum
35. **The property of bending of light around obstacles is called:**  
 (A) Reflection (B) Refraction (C) Diffraction (D) Interference
36. **The drag force acting on a sphere of radius  $r$  moving slowly through a viscous fluid is proportional to:**  
 (A)  $r^2$  (B)  $r$  (C)  $\frac{1}{r^2}$  (D)  $\frac{1}{r}$
37. **Weber is a unit of:**  
 (A) Magnetic force (B) Magnetic flux  
 (C) Electric flux (D) Magnetic induction
38. **To observe the position of micro particle with greatest accuracy, one must use light of:**  
 (A) Long wavelength (B) Short wavelength  
 (C) Low intensity (D) High intensity
39. **The unit of electromotive force is:**  
 (A) Newton (B) Newton/Coulomb (C) Watt (D) Volt
40. **The cross products of two parallel vectors is:**  
 (A) A null vector (B) Unit vector  
 (C) Zero (D) The products of magnitudes

## BIOLOGY

41. **The difference between the rough endoplasmic reticulum and smooth endoplasmic reticulum is due to the presence of:**  
 (A) Mesosomes (B) Ribosomes

- (C) Golgi bodies (D) Mitochondria
42. **Which of the following is correctly paired with its function?**  
(A) Mitochondria: store lipids  
(B) Golgi bodies: formation of polysaccharides  
(C) Lysosomes, is a single celled organelle for packing  
(D) Ribosome: work more efficiently in acidic medium (E) None
43. **Which of the following hormones of endocrine system is not paired correctly?**  
(A) Anterior pituitary gland = LH (B) Adrenal cortex = Glucocorticoids  
(C) Posterior pituitary gland = FSh (D) Adrenal medulla = Epinephrine  
(E) Parathyroid = Parathormone
44. **Ascaris belongs to the phylum:**  
(A) Annelida (B) Arthropoda  
(C) Nematoda (D) Echinodermata
45. **The process of formation of RNA from DNA is called:**  
(A) Translation (B) Transcription  
(C) Mutation (D) Replication
46. **Loss of water through Hydathodes is called:**  
(A) Guttation (B) Transpiration  
(C) Photosynthesis (D) Respiration
47. **Which of the following is the part of pectoral girdle?**  
(A) Patella (B) Pubis (C) Femur (D) Glenoid cavity
48. **Antibodies are not present in:**  
(A) Blood (B) Lymph (C) Plasma (D) Saliva
49. **Two or more populations of different species living and inter active in same area are called:**  
(A) Group (B) Community (C) Habitat (D) Population
50. **Apple trees, oaks and palm trees are:**  
(A) Angiosperms (B) Gymnosperms  
(C) Chordates (D) Bryophytes
51. **Cerebellum causes:**  
(A) Muscle contraction (B) Blinking of eyes

- (C) Dilation and constriction of pupil      (D) Knee jerking
52. **If a man is color blind and marry with normal woman, what will be correct?**  
 (A) 100% of females will be carrier and 100% males will be normal.  
 (B) 50% normal males 100% affected females.  
 (C) 50% males affected 50% females carriers.  
 (D) 100% females normal, 50% males affected.
53. **Pepsin is a.....and secreted by.....**  
 (A) Acid-intestine      (B) Enzyme-stomach  
 (C) Protein-Jejunum      (D) Secretion-pancreas
54. **Which of the following is the correct outline of the main events in photosynthesis:**  
 (A) Oxygen reacts with carbohydrates to produce water and carbon dioxide in the presence of light.  
 (B) Lights join carbon dioxide to an acceptor compound which is then reduced by hydrogen obtained from water.  
 (C) Light splits water and the resulting hydroxyl group combines with a compound which has incorporated carbon dioxide.  
 (D) Light splits water and the resulting carbon then combines with a oxygen and hydrogen obtained from water.  
 (E) Carbon dioxide combines with acceptor compound and this is reduced by hydrogen split from water by light.
55. **Progesterone causes:**  
 (A) Makes uterus ready for implantation      (B) Release FSH  
 (C) Produce follicle      (D) Inhibits LH
56. **Which one is not a respiratory organ of arthropods?**  
 (A) Cills      (B) Book hung      (C) Trachea      (D) Antenna
57. **What is that response in which organism does not show any differences on repeated UN-harmful effect?**  
 (A) Imprinting      (B) Habituation      (C) Instinct learning      (D) Learning
58. **Which one is the correct for the theory of Darwin?**  
 (i) Struggle for existence    (ii) Survival    (iii) Over production    (iv) Evolution  
 (A) I, II, III, IV      (B) III, I, IV    (C) IV, III, II, I      (D) II, I, III, IV

59. **Which one is not an STD?**  
(A) Gonorrhoea (B) Syphilis (C) AIDS (D) Meningitis
60. **The common disease caused by lack of vitamin C is called:**  
(A) Diabetes mellitus (B) Typhoid (C) Scurvy (D) Malaria  
(E) None of the above
61. **The cells transmits impulses from the:**  
(A) Effectors organ to the spinal cord  
(B) Receptor cells to the effectors organ  
(C) Receptor cells to the spinal cord cells  
(D) Spinal cord to the effectors organ  
(E) Spinal cord to the receptor cell
62. **How many bones are present in the wrist?**  
(A) Four bones (B) Six bones (C) Eight bones  
(D) Ten bones (E) Many bones
63. **Molds and yeast are classified as:**  
(A) Rhodophytes (B) Bryophytes (C) Fungi  
(D) Ciliates (E) Flagellates
64. **A gamete without any sex chromosome termed as:**  
(A) Nullo gamete (B) Neo-gamete (C) Homozygous (D) None
65. **Phosph-di-ester bond is present in:**  
(A) ATP (B) GTP (C) NAD (D) All
66. **Pick the opposite working pair:**  
(A) RBC and platelet (B) Neutrophil and monocytes  
(C) Basophils and eosinophil's (D) Lymphocytes and monocytes
67. **Protein found in highest concentration in blood is:**  
(A) Albumin (B) Globulin  
(C) Prothrombi (D) Fibrinogen
68. **A page virus is a virus that infects:**  
(A) Other viruses (B) Protozoa (C) Bacteria (D) Algae
69. **Which one of the following does not change when the muscle contracts?**  
(A) A-band (B) I-band



- (C) H-zone (D) length of muscles
70. **The swelling of structure due to absorption of water is called:**  
(A) Guttation (B) Plasmolysis  
(C) Deplasmolysis (D) Imbibition

### CHEMISTRY

71. **The PH of 1 molar KOH is:**  
(A) 8 (B) 7 (C) 14 (D) 1
72. **The electronic configuration  $1s^2, 2s^2, 2p^6, 3s^2, 3p^6, 4s^2, 3d^7$  depicts an atom of the element.**  
(A) Br (B) CO (C) Ga (D) Mg (E) Cd
73. **Oxidation of secondary Alcohol gives:**  
(A) Aldehyde (B) Ketone (C) Ethene (D) Mineral acid
74. **If two atoms of different elements having different electro negativities combine such a way that they share electrons.....then the bond between them is:**  
(A) Polar covalent (B) Non polar covalent  
(C) Hydrogen bond (D) Ionic bond
75. **Shiny, electrically non conducting and brittle these characteristics depicts that under consideration is:**  
(A) Halogen (B) Transition metal  
(C) Alkali metals (D) Alkaline earth metals
76. **Which of the following is most highly reactive metal?**  
(A) Na (B) Cl (C) Mg (D) Fe
77. **There is a chemical under consideration. We do not know if it is HCl or  $H_2SO_4$ . Which of the following compounds will react with the chemical under consideration to produce a precipitate and hence confirming the fact that the chemical is  $H_2SO_4$ .**  
(A)  $UNO_3$  (B)  $Ba(NO_3)_2$  (C)  $AgNO_3$  (D) NaCl
78. **Give the IUPAC name of**  
(A) Neobutane (B) Hexabutane  
(C) 2-phenylbutane (D) 2-hexabutane

79. How many electrons are in  $\text{Cl}^{-37}$  with charge minus 1?  
(A) 18 (B) 19 (C) 20 (D) 21
80. A gaseous organic compound C, was burnt in an excess of oxygen. A = 0.112 dm<sup>3</sup> Sample of C measured at S.T.P, produced 0.88g of carbon dioxide. How many carbon atoms are there in one molecule?  
(A) 1 (B) 2 (C) 3 (D) 4 (E) 8
81. In neutralization:  
(A) The base is neutralized (B) The acid is neutralized  
(C) Salt is formed (D) All of the above
82.  $\alpha$ -rays (Alpha) are:  
(A) Fast moving electrons (B) Protons  
(C) Neutrons (D) Positively charged helium nuclei
83. Which orbital has lowest energy?  
(A) 3d (B) 4s (C) 3p (D) 4f (E) 5f
84. Which one of the following one has largest ionic radius?  
(A)  $\text{Pb}^{-3}$  (B)  $\text{Cr}^{-1}$  (C)  $\text{K}^{+}$  (D)  $\text{Na}^{+}$
85. Which of the following has greatest energy in the reaction?  
(A) Transition state (B) Reactants (C) Products (D) None
86. Coinage metals are:  
(A) Ni, Pd, Pt (B) Cu, Ag, Au (C) Au, Al, Pb (D) Fe, Si, Sn
87. Orbitals of same energy are called as.....orbital.  
(A) Atomic (B) Molecular (C) Degenerate (D) All
88. Which of the following does not form alcohol with Grignard reagent?  
(A)  $\text{HCHO}$  (B)  $\text{CH}_3\text{CHO}$  (C)  $\text{CH}_3\text{COCH}_3$  (D)  $\text{CO}_2$
89. In gas and liquid temperature is measure of:  
(A) Vibrational kinetic energy (B) Translational kinetic energy  
(C) Rotational kinetic energy (D) Potential energy
90. Which one of the following has lowest critical temperature?  
(A)  $\text{CO}_2$  (B) Ar (C)  $\text{N}_2$  (D)  $\text{O}_2$
91. Purity of solid substances can be checked by:  
(A) Shape (B) Melting point (C) Density (D) Color

92. **Boiling point of water depends upon:**  
(A) Amount of water (B) Surface area  
(C) Vapour pressure (D) Atmospheric pressure
93. **Bond present in diamond is:**  
(A) Ionic (B) Molecular (C) Covalent (D) Metallic
94. **Aluminum does not corrode due to the formation of:**  
(A) O<sub>2</sub> layer (B) H<sub>2</sub>O layer (C) H<sub>2</sub>O layer (D) Al<sub>2</sub>O<sub>3</sub> layer
95. **Al<sub>2</sub>O<sub>3</sub>.2SiO<sub>2</sub>.2H<sub>2</sub>O is the formula of:**  
(A) Feldspar (B) Corundum (C) Clay (D) Gypsum
96. **Dissociation of solute does not depend on:**  
(A) Size of solvent (B) Temperature  
(C) Nature of solute (D) Concentration of solute
97. **Shape of the orbital is given by:**  
(A) Principle Quantum number (B) Azimuthal quantum number  
(C) Magnetic quantum number (D) Spin quantum number
98. **Electrical energy is converted into chemical energy by:**  
(A) Electrical cell (B) Electrolytic cell  
(C) Galvanic cell (D) Daniel cell
99. **When strong acid is added to the buffer solution, it results in the formation of:**  
(A) Strong Acid (B) Weak Acid (C) Weak Acid (D) Weak base
100. **Vapour pressure of water and ethanol is:**  
(A) Greater than water (B) Lesser than water  
(C) Equal to water (D) None

**FEDERAL MEDICAL AND DENTAL COLLEGE ISLAMABAD**

**ANSWERS KEY**

**FMDC Paper 2012**

- |         |         |         |          |         |         |
|---------|---------|---------|----------|---------|---------|
| 1. (D)  | 2. (D)  | 3. (D)  | 4. (B)   | 5. (A)  | 6. (C)  |
| 7. (B)  | 8. (A)  | 9. (C)  | 10. (C)  | 11. (D) | 12. (A) |
| 13. (C) | 14. (B) | 15. (C) | 16. (A)  | 17. (A) | 18. (A) |
| 19. (A) | 20. (C) | 21. (A) | 22. (A)  | 23. (A) | 24. (A) |
| 25. (A) | 26. (C) | 27. (C) | 28. (A)  | 29. (A) | 30. (B) |
| 31. (D) | 32. (D) | 33. (A) | 34. (D)  | 35. (C) | 36. (B) |
| 37. (B) | 38. (B) | 39. (D) | 40. (C)  | 41. (B) | 42. (E) |
| 43. (C) | 44. (C) | 45. (B) | 46. (A)  | 47. (D) | 48. (D) |
| 49. (B) | 50. (A) | 51. (A) | 52. (A)  | 53. (B) | 54. (E) |
| 55. (A) | 56. (D) | 57. (B) | 58. (C)  | 59. (D) | 60. (C) |
| 61. (D) | 62. (C) | 63. (C) | 64. (A)  | 65. (D) | 66. (C) |
| 67. (A) | 68. (C) | 69. (A) | 70. (D)  | 71. (C) | 72. (B) |
| 73. (B) | 74. (A) | 75. (A) | 76. (A)  | 77. (B) | 78. (C) |
| 79. (A) | 80. (D) | 81. (D) | 82. (D)  | 83. (C) | 84. (C) |
| 85. (A) | 86. (B) | 87. (C) | 88. (D)  | 89. (B) | 90. (C) |
| 91. (B) | 92. (C) | 93. (C) | 94. (D)  | 95. (C) | 96. (D) |
| 97. ( ) | 98. (B) | 99. (D) | 100. (A) |         |         |