9. The time rate of change of velocity is called:
   A. Force
   B. Acceleration
   C. Power
   D. Energy

10. In projectile motion, the range of projectile will be maximum at an angle of:
   A. 30 degrees
   B. 45 degrees
   C. 60 degrees
   D. 90 degrees

11. Which of the following is NOT TRUE?
   A. Momentum is quantity of motion
   B. Unit of momentum is N.s
   C. Momentum is not a vector quantity
   D. Momentum is product of mass and velocity

12. In perfect elastic collision:
   A. Only momentum is conserved
   B. Only total energy is conserved
   C. Only kinetic energy is conserved
   D. Momentum, kinetic energy and total energy is conserved

13. The slope of a displacement – time graph is:
   A. Velocity
   B. Displacement
   C. Acceleration
   D. Distance

14. Two stones, 10kg and 50kg fall through 80m high cliff. Which stone has greater velocity at bottom? ($g=10ms^{-2}$) (Ignoring air resistance)
   A. 10 Kg
   B. 50 Kg
   C. Both have same velocity
   D. Cannot be calculated

15. How much work is done by force of gravity in pulling a stone of weight 10N from the top of 250m high cliff to the foot of cliff?
   A. 250 J
   B. 26 J
   C. 2,500 J
   D. 25,000 J

16. When the speed of your car is halved, by what factor does its kinetic energy decrease?
   A. 1/2
   B. 1/4
   C. 1/8
   D. 1/6

17. If by some phenomenon earth contracts to one half to its present size, then value of gravitational potential energy becomes:
   A. Double
   B. One-half
   C. Remains same
   D. Four times

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$C_p - C_v = R$ shows that:

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18. The product of force and velocity is:
   A. Kinetic Energy
   B. Potential Energy
   C. Power
   D. Work done

19. One degree is equal to:
   A. 0.1 radian
   B. 0.15 radian
   C. 0.175 radian
   D. 0.275 radian

20. An object moving along a circular path of radius 1m. It covers a distance of 2m along the circumference of the circle. What will be the angular displacement covered by it?
   A. 1/2 rad
   B. 2 rad
   C. 3 rad
   D. 2/3 rad

21. If we double, both the speed of body and radius of circular path, the centripetal force will be:
   A. Same
   B. Double
   C. 4-times
   D. 8-times

22. Relation between angular and linear velocity is:
   A. $v = r\pi$
   B. $v = r\omega$
   C. $\omega = v/r$
   D. $v = \omega/r$

23. In a ripple tank 100 waves pass through a certain point in one second. If the wavelength of the wave is 1cm then the speed of wave will be?
   A. 1 ms^{-1}
   B. 2 ms^{-1}
   C. 3 ms^{-1}
   D. 4 ms^{-1}

24. To make frequency of spring oscillation four times, we have to:
   A. Reduce mass to one fourth
   B. Quadruple the mass
   C. Reduce mass to one sixteenth
   D. Double the mass

25. Number of wavelength per unit time is:
   A. Speed
   B. Velocity
   C. Displacement
   D. Frequency

26. Speed of sound is 332 ms^{-1} at 0° C. What will be its value at 10° C?
   A. 332 ms^{-1}
   B. 336.1 ms^{-1}
   C. 332.61 ms^{-1}
   D. 334.1 ms^{-1}

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27. In molar specific heat, the equation $C_p - C_v = R$ shows that:
A. $C_p < C_v$
B. $C_p = C_v$
C. $C_p > C_v$
D. C_p = constant

28. The thermodynamic process during which volume of the system remains constant is:
A. Isothermal
B. Isobaric
C. Isochoric
D. Adiabatic

29. If two capacitors of capacitance $2\mu F$ and $6\mu F$ are connected in parallel, the equivalent capacitance of combination will be:
A. $8\mu F$
B. $3/2\mu F$
C. $4\mu F$
D. $13/2\mu F$

30. Capacitance of a capacitor does not depend upon:
A. Temperature
B. Separation between plates
C. Medium
D. Area of the plates

31. Power transfer will be maximum when:
A. $R > r$
B. $R < r$
C. $R = r$
D. $R = 1/r$

32. A wire is stretched so that its radius of cross section becomes half, then resistance of wire will be:
A. $4R$
B. $\frac{R}{4}$
C. $8R$
D. $16R$

33. When a charged particle enters the magnetic field parallel, it will:
A. Deflect towards North
B. Deflect towards South
C. Move straight
D. Move in circular path

34. Magnetic flux is maximum when angle between magnetic field and vector area is:
A. $0°$
B. $90°$
C. $180°$
D. $45°$

35. The domestic electricity supply in Pakistan has a frequency of:
A. 70Hz
B. 50Hz
C. 100Hz
D. 30Hz

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36. The device which increases or decreases the emf is called:
A. AC generator
B Motor
C. Transformer
D. DC generator

37. The induced current will flow in such a direction so as to oppose the cause that produces it. The statement is:
A. Ampere's Law
B. Faraday's Law
C Lenz's Law
D Joule's Law

BIOLOGY

38. If fertilization occurs, the young embryo is implanted in to the:
A Epimetrium
B Perimetrium
C Myometrium
D Endometrium

39. Sperms are produced in:
A Vas deferens
B. Collecting duct
C Epididymis
D Seminiferous tubules

40. Hormones called gonadotropins are released by which gland?
A. Ovaries
B Hypothalamus
C Pituitary
D Testes

41. Which of the following is found at the ends of long bones, in the nose, larynx and trachea?
A Elastic cartilage
B Fibrous cartilage
C. Perichondrium
D Hyaline cartilage

42. A muscle with characters like spontaneous contraction, many nuclei per cell and no control over contraction is most likely:
A Smooth muscle
B Cardiac muscle
C. Skeletal muscle
D. Visceral muscle

43. "Ball and Socket" joint is present at:
A Shoulder
B Wrist
C. Elbow
D. Knee

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80. Which human body function is NOT controlled through negative feedba mechanism?
A Body temperature
B Glucagon production
C Labor contraction
D Parathyroid activity

81. Grey matter of spinal cord does not contain:
A. Cell bodies of sensory neurons
B. Cell bodies of interneurons
C. Axons of interneurons
D. Cell bodies of motor neurons

82. In term of enzyme action, maximum temperature refers to a temperature at which:
A. Enzymes start to denature
B. Enzymes start to re-nature
C. Enzymes work best
D. Enzymes are reactivated

83. In enzymatic activity, the term "Feedback inhibition" is used when:
A. Enzyme is inhibited by the product being produced
B. Enzyme works normally for regulatory mechanisms
C. Enzyme remains unaffected by product concentration
D. Enzyme is inhibited irreversibly

84. The chemical which regulates the enzymatic activity is:
A. Activator
B. Inhibitor
C. Substrate
D. Coenzyme

85. At temperature higher than optimum, enzymatic activity decreases because of:
A. Saturation
B. Inhibition
C. Denaturation
D. Composition

86. Which of the following ideas was not part of Charles Darwin's theory of evolution by natural selection?
A. Organisms produce more off springs than the environment can support
B. Variation between individuals arises by gene mutation
C. Only those individuals best adapted to the environment survive and reproduce
D. Individuals compete for scarce resources

87. Evolution of Kiwi, food of modern horse, webbed feet of duck and loss of teeth in whale were all explained in detail by:
A. Lamarck
B. Darwin
C. Weismann
D. De Vries

88. Which of the following is NOT TRUE about interferons?
A. Belong to cytokines
B. Activate natural killer cells
C. Activate immune cells
D. Secrete interleukin

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89. Intrinsic factor secreted by parietal cells of stomach mucosa helps in:
A. Vitamin B12 absorption
B. Protein digestion
C. Carbohydrate break down
D. Bowel movement

90. Major volume of gastric juice is produced in stomach by:
A. Sensation of taste
B. Smell of food
C. Presence of protein food in stomach
D. Sight of food

91. Which one is NOT a metabolic role of liver?
A. Glycogenolysis
B. Gluconeogenesis
C. Deamination
D. Immunoglobulin synthesis

92. The enzyme which is NOT produced by pancreas during digestion is:
A. Lipase
B. Trypsin
C. Pepsin
D. Amylase

93. The heart chamber from where aorta originates is:
A. Left ventricle
B. Right ventricle
C. Left atrium
D. Right atrium

94. Lymphatic system contains all of the following organs / structures except
A. Lymphoid masses
B. Lymph vessels
C. Spleen
D. Lungs

95. Which protein is present in the walls of alveoli?
A. Collagen
B. Haemoglobin
C. Myoglobin
D. Myosin

96. The natural bacterial flora is beneficial to humans because they:
A. Interfere with pathogenic colonization
B. Develop resistance against antigens
C. Develop resistance against physical agents
D. Produce antibiotic against pathogens

97. In bacteria, the resistance against heat is provided by:
A. Granules
B. Cysts
C. Spores
D. Plasmids

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