Sky Tutorials

fly beyond the sky...

IIT-JEE | NEET | Foundation

NEET

Time: 200 Minute **M.M. 720**

ALL INDIA SKY TEST SERIES

Ummeed Batch – Neet

Date : 03/09/2023

SYLLABUS

PHYSICS	CHEMISTRY	BOTANY	ZOOLOGY
Basic Mathematics + Kinematics	**Mole Concept, Periodic table, IUPAC**	**Cell: The Unit of life, Cell Cycle & Cell Division**	**Animal Kingdom upto Nonchordata**

Please read the instructions carefully. You are allotted **5** minutes specifically for this purpose.

INSTRUCTIONS:

1. This Question paper is divided in to four parts physics, chemistry, botany, zoology and each part is further divided into two sections.
   Section –A contains 35 Questions Section B contains 15 questions. Please ensure that the Questions paper you have received contains **ALL THE QUESTIONS** in each Part.
2. **In Section A all the 35 Questions are compulsory and in Section B Contain 15 Question, out of these 15 Questions**, candidates can choose to attempt any **10 Questions**.
   Each Question has four choices (a), (b), (c), (d) out of which **only one is correct & Carry 4 marks each 1 mark** will be deducted for each wrong answer.

GENERAL INSTRUCTION

1. Use only **blue/black pen (avoid gel pen)** for darkening the bubble.
2. Indicate the correct answer for each question by filling appropriate bubble in your **OMR** answer sheet.
3. The answer sheet will be checked through computer hence; the answer of the question must be marked by –shading the circles against the question by dark **blue/black pen**
4. Blank papers, Clipboards, Log tables, Slide Rule, Calculator, Cellular Phones Papers and Electronic Gadgets in any form are **not** allowed to be carried inside the examination hall.

Name of the candidate: _____

Signature of the candidate: _____**Signature of the invigilator:** _____

PHYSICS

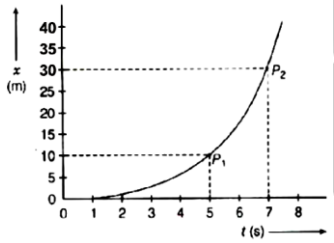
SECTION – A

1. A body is projected vertically in upward direction from ground with speed 20 m/s . It will come on ground after (g = 10 m/s²) :
(a) 2 sec (b) 4 sec (c) 20 sec (d) 12 sec

2. A car travelling at a speed of 30 km/h is brought to a halt in a distance of 8 m by applying brakes. If the same car is moving at a speed of 60 km/hr then it can be brought to a halt with same brakes in:
(a) 64 m (b) 32 m (c) 16 m (d) 4 m

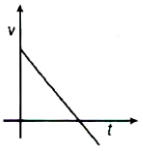
3. A particle experiences constant acceleration for 20 seconds after starting from rest. if it travels a distance S_1 in the first 10 seconds and a distance S_2 in next 10 seconds, then:
(a) $S_2 = S_1$ (b) $S_2 = 2S_1$
(c) $S_2 = 3S_1$ (d) $S_2 = 4S_1$

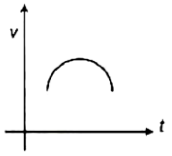
4. In figure, displacement – time (x – t) graph given below:

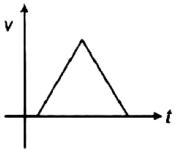


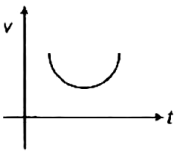
the average velocity between time t = 5 s and t = 7 s is
(a) 8 ms^{-1} (b) 10 ms^{-1} (c) 15 ms^{-1} (d) 20 ms^{-1}

5. A particle is thrown upwards, then correct v-t graph will be :

(a) 

(b) 

(c) 

(d) 

6. The motion of a particle along a straight line is described by equation
$x = 8 + 12\,t - t^3$
where, x is in metre and t in sec. The retardation of the particle when its velocity becomes zero, is:
(a) 24 ms^{-2} (b) zero (c) 6 ms^{-2} (d) 12 ms^{-2}

7. A car moves with uniform acceleration upto some distance. Initial and final velocities are u and v then velocity of car at half way of the path will be:
(a) $\frac{1}{2}(u+v)$ (b) $\frac{1}{2}(u^2+v^2)$
(c) $\sqrt{\frac{1}{2}(u^2+v^2)}$ (d) $\frac{1}{2}\sqrt{(u^2+v^2)}$

8. A point moves with uniform acceleration and coverse 100 m distance in first 4s and 120 m distance in next 2s. Velocity of body at the end of 8th second :
(a) 75 ms^{-1} (b) 82.3 ms^{-1}
(c) 95 ms^{-1} (d) 105 ms^{-1}.

9. A particle starts from the origin with a velocity of 10ms^{-1} and moves with a constant acceleration till the velocity increases to 50 ms^{-1}. At that instant, the acceleration is suddenly reversed. What will be the velocity of the particle, when it returns to the starting point?
(a) Zero (b) 10 ms^{-1}
(c) 50 ms^{-1} (d) 70 ms^{-1}

10. A body released from the top of a smooth inclined plane and reaches the bottom of the plane in 4 sec. The time taken by the body to cover the first half of the inclined plane is :
(a) 2 sec (b) $2\sqrt{2}$ sec (c) $3\sqrt{2}$ sec (d) 5 sec

11. The resultant of $\vec{A}+\vec{B}$ is $\vec{R}_1$ .On reversing the vector $\vec{B}$, the resultant becomes $\vec{R}_2$. What is the value of $R_1^2+R_2^2$:
(a) A^2+B^2 (b) A^2-B^2
(c) $2(A^2+B^2)$ (d) $2(A^2-B^2)$

12. Two vector $\vec{A}$ and $\vec{B}$ have equal magnitudes. If magnitude of $\vec{A}+\vec{B}$ is equal to 'n' times the magnitude of $\vec{A}-\vec{B}$, then the angle between $\vec{A}$ and $\vec{B}$ is:
(a) $\cos^{-1}\left(\frac{n-1}{n+1}\right)$ (b) $\cos^{-1}\left(\frac{n^2-1}{n^2+1}\right)$
(c) $\sin^{-1}\left(\frac{n-1}{n+1}\right)$ (d) $\sin^{-1}\left(\frac{n^2-1}{n^2+1}\right)$

13. If $\vec{C}=\vec{A}+\vec{B}$ and $\vec{A}\perp\vec{B}$ and $|\vec{C}|=2|\vec{B}|$, then find angle between $\vec{A}$ and $\vec{C}$:
(a) $\frac{\pi}{6}$ (b) $\frac{3\pi}{5}$ (c) $\frac{2\pi}{3}$ (d) $\frac{5\pi}{6}$

14. Find value of $|\vec{A}\times\vec{B}|^2+|\vec{A}.\vec{B}|^2$:
(a) zero (b) A^2B^2 (c) AB (d) $\sqrt{AB}$

15. The area of triangle formed by the adjacent sides with $\vec{A}=-3\hat{i}+2\hat{j}-4\hat{k}$ and $\vec{B}=-\hat{i}+2\hat{j}+\hat{k}$ is:
(a) $\frac{\sqrt{165}}{2}$ (b) $\frac{\sqrt{137}}{2}$ (c) $\sqrt{165}$ (d) $\sqrt{137}$

16. The velocity of a particle is given by the expression
$$v(x) = 3x^2 - 4x$$
where, x is distance covered by the particle. The expression for acceleration is :
(a) $(3x^2-4x)(6x-4)$ (b) $6(3x^2-4x)$
(c) $(6x-4)^2$ (d) $(3x^2-4x)6x$

17. A balloon is rising vertically up with a velocity of 29 m/s. A stone is dropped from it & it reaches the ground in 10 sec. Find height of balloon when the stone was dropped. (g = 10 m/s^2):
(a) 210 m (b) 440 m (c) 180 m (d) 325 m

18. A juggler keeps on moving four balls in air throwing the balls after regular intervals of 1 sec. When fourth ball leaves his hand (speed = 20 ms^{-1}), the position of other balls (height in meter) will be (take g = 10 ms^{-2})
(a) 10, 20, 10 (b) 15, 20, 15
(c) 5, 15, 20 (d) 5, 10, 20

19. A body thrown vertically upwards direction it passes from same height at 4sec and 6 sec respectively. Then find initial velcoity of body (g=10 m/s^2)
(a) 50 m/s (b) 10 m/s (c) 20 m/s (d) 40 m/s

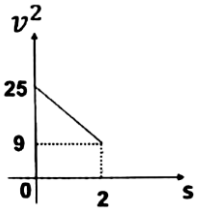
20. A particle located at x = 0 at time t = 0, starts moving along with the positive x – direction with a velocity 'v' that varies as $v=\alpha\sqrt{x}$. The displacement of the particle varies with time:
(a) $\propto t^2$ (b) $\propto t$ (c) $\propto t^{1/2}$ (d) $\propto t^3$

21. A particle is moving along a straight line such that its acceleration $a=A+\frac{B}{S^2}$ what is the velocity of particle when it is at S = 10 [at s = 1, V = 0]
(a) $\sqrt{18\left(A+\frac{B}{10}\right)}$ (b) $\sqrt{\frac{AB}{10}}$
(c) $\sqrt{9\left(A+\frac{B}{10}\right)}$ (d) $\sqrt{10\left(A+\frac{B}{9}\right)}$

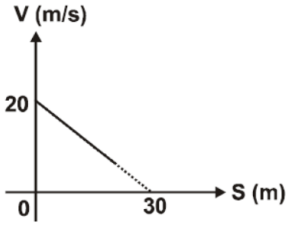
22. If displacement of a particle is zero then distance covered :
(a) Must be zero
(b) May or may not be zero
(c) Can not be zero
(d) Depends upon the particle.

23. A body is moving from rest under constant acceleration and let S_1 the displacement in the first (p – 1) sec and S_2 be the displacement in the first p sec., the displacement in $(p^2 - p + 1)^{th}$ sec. will be:
(a) $S_1 + S_2$ (b) $S_1 S_2$ (c) $S_1 - S_2$ (d) S_1 / S_2

24. A graph between the square of the velocity of a particle and the distance s moved by the particle is shown in the figure. The acceleration of the particle is :
(a) – 8 ms^{-2}
(b) – 4 ms^{-2}
(c) – 16 ms^{-2}
(d) None of these



25. If the velcoity v of a particle moving along a straight line decreases linearly with its displacement s from 20 m/s to a value approaching zero at s = 30 m, then acceleration of the particle at v = 10 m/s is :



(a) (2/3) ms^{-2} (b) – (2/3) ms^{-2}
(c) (20/3) ms^{-2} (d) - (20/3) ms^{-2}

26. A balloon is rising vertically upwards at a velocity of 10 ms^{-1}. When it is at a height of 45 m from the ground, a parachutist bails out from it. After 3s he opens his parachute and decelerates at a constant rate of 5 ms^{-2}. After how long does the parachutist hit the ground after his exit from the balloon :
(a) 4 s (b) 5 s (c) 6 s (d) 7 s

27. If a car covers $2/5^{th}$ of the total distance with v_1 speed and $3/5^{th}$ distance with v_2 then average speed is:
(a) $\frac{1}{2}\sqrt{v_1 v_2}$ (b) $\frac{v_1+v_2}{2}$
(c) $\frac{2v_1v_2}{v_1+v_2}$ (d) $\frac{5v_1v_2}{3v_1+2v_2}$

28. A ballis is thrown upwards. It takes 4 sec to reach back to the ground. Find its initial velocity:
(a) 30 ms^{-1} (b) 10 ms^{-1} (c) 40 ms^{-1} (d) 20 ms^{-1}

29. Two guns A and B can fire bullets at speed 1km/s and 2km/s respectively. From a point on a horizontal ground, they are fired in all possible directions. The ratio of maximum areas covered by the bullets fired by the two guns, on the ground is:
(a) 1 : 2 (b) 1 : 4 (c) 1 : 8 (d) 1 : 16

30. A shell is fired from a fixed artillery gun with an initial speed u such that it hits the target on the ground at a distance R from it. If t_1 and t_2 are the values of the time taken by it to hit the target in two possible ways. the product t_1t_2 is:
(a) R/g (b) R/4g (c) 2R/g (d) R/2g

31. Two particles are projected from the same point with the same speed u such that they have the same range R, but different maximum heights, h_1 and h_2. Which of the following is correct:
(a) $R^2 = 2\,h_1h_2$ (b) $R^2 = 16\,h_1h_2$
(c) $R^2 = 4\,h_1h_2$ (d) $R^2 = h_1h_1$

32. A bullet is to be fired with a speed of 2000 ms^{-1} to hit a target 200m/s^2 away on a level ground. If g = 10 m/s^2, the gun should be aimed :
(a) Directly at the target
(b) 5 cm below the target
(c) 5 cm above the target
(d) 2 cm above the target

33. A projectile is fired at an angle of 45^o with the horizontal Elevation angle of projectile at its highest point as seen from the point of projection is
(a) $\tan^{-1}\left(\frac{\sqrt{3}}{2}\right)$ (b) 45^o
(c) 60^o (d) $\tan^{-1}\frac{1}{2}$

34. A particle starts from the origin at t = 0 with an initial velocity of $3.0\hat{i}$ m/s and moves in the x – y plane with a constant acceleration $(6.0\hat{i}+4.0\hat{j})$ m/s^2. The x – coordinate of the particle at the instant when its y – co-ordinate is 32m is D meters. The value of D is
(a) 50 (b) 32 (c) 60 (d) 40

35. Vector $\vec{A}$ makes equal angles with x – y and z axis. Value of its components (in terms of magnitude of $\vec{A}$) will be.
(a) $\frac{A}{\sqrt{3}}$ (b) $\frac{A}{\sqrt{2}}$ (c) $\sqrt{3}A$ (d) $\frac{\sqrt{3}}{A}$

SECTION -B

36. A river flows from West to East at the rate of 5 ms^{-1}. A swimmer who can swim at the rate of 13 ms^{-1} in still water wants to reach on opposite point of the other bank. In what direction with up stream he should swim :
(a) $\sin\theta = \frac{5}{8}$ (b) $\sin\theta = \frac{3}{5}$
(c) $\sin\theta = \frac{12}{13}$ (d) $\sin\theta = \frac{3}{8}$

37. A girl riding a bicycle with a speed of 5ms^{-1} towards North direction sees raindrops falling vertically downwards. On increasing the speed to 15 ms^{-1} rain appears to fall making an angle of 45° of the vertical. Find the magnitude of velocity of rain.
(a) 5 ms^{-1} (b) $5\sqrt{5}$ ms^{-1} (c) 25 ms^{-1} (d) 10 ms^{-1}

38. Two particles A and B thrown with speeds in the ratio $4\sqrt{2}:5$ acquired the same height. If A is thrown at an angle of 45^o with the horizontal, then angle of projection of B will be.
(a) 30^o (b) 37^o (c) 42^o (d) 53^o

39. A man can throw a stone to a maximum distance of 80 m. The maximum height upto which he can throw with same speed :
(a) 30 m (b) 20 m (c) 10 m (d) 40 m

40. Three particles A, B and C projected from the same point with the same initial speeds making angle 30°, 45° and 60°, respectively with the horizontally. Which of the following statements is correct?
(a) A, B and C have unequal ranges
(b) Ranges of A and C are less than that of B
(c) Ranges of A and C are equal and less than that of B
(d) A, B and C have equal ranges.

41. The speed of a projectile at the maximum height is 1/2 its initial speed. Find the ratio of range of projectile to the maximum height attained :
(a) $4\sqrt{3}$ (b) $\frac{4}{\sqrt{3}}$ (c) $\frac{\sqrt{3}}{4}$ (d) 6

42. Find angle of projection with the horizontal in terms of maximum height attained and horizontal range:
(a) $\tan^{-1}\frac{2H}{R}$ (b) $\tan^{-1}\frac{4R}{H}$
(c) $\tan^{-1}\frac{4H}{R}$ (d) $\tan^{-1}\frac{H}{R}$

43. A projectile is given an initial velocity of $\left(2\hat{i}+\hat{j}\right)ms^{-1}$, where $\hat{i}$ is along the ground and $\hat{j}$ is along vertical. If g = 10 ms^{-2}, the equation of its trajectory is
(a) $y = x - 5x^2$ (b) $y = 2x - 5x^2$
(c) $4y = 2x - 5x^2$ (d) $4y = 2x - 25x^2$

44. A man standing on a road hold his umbrella at 30^o with the vertical to keep the rain away. He throws the umbrella and starts running at 10 km/hr. He finds that raindrops are hitting his head vertically, the speed of raindrops w.r.t the road will be :
(a) 10 km/h (b) 20 km/h
(c) 30 km/h (d) 40 km/h

45. A person aiming to reach the exactly opposite point on the bank of a stream is swimming with a speed 0.5 m/s at an angle 120^o with the direction of flow of water. The speed of water in the stream is :
(a) 1 m/s (b) 0.5 m/s
(c) 0.25 m/s (d) 0.433 m/s

46. A 225 m long train is moving to north at a speed of 8 m/s. A parrot flying towards south with a speed of 7 m/s crosses the train. The time taken by the parrot to cross the train would be :
(a) 20 s (b) 15 s (c) 8 s (d) 10 s

47. A car is going E with velocity 8 m/s & a passenger in the car observes that a train is going N wih speed of 15 m/s. What is the actual velocity of train:
(a) 15 m/sec (b) 10 m/sec
(c) 50 m/sec (d) 17 m/sec

48. A man can swim with a speed of 5.0 km/h in still water. How long does he take to cross a river 1.0 km wide if the river flows steadily at 3.0 km/h and he makes his strokes normal to the river current? How far down the river does he go when he reaches the other bank :
(a) 15 min, 750 m (b) 12 min, 750 m
(c) 15 min, 700 m (d) 12 min, 600 m

49. A man walking on the road with velocity of 3 km/h encounters rain falling vertically with a velocity of 15 km/h. At what angle from vertical should be hold his umbrella to protect him safe from the rain:
(a) $\tan^{-1}\frac{15}{3}$ (b) $\tan^{-1}\frac{3}{15}$
(c) $\cos^{-1}\frac{3}{15}$ (d) $\sin^{-1}\frac{3}{15}$

50. A boat which has a speed of 5 km/h in still water cross a river of width 1 km along the shortest possible path in 15 minute. Find the velocity of river water in km/h .
(a) 7 km/h (b) 3 km/h
(c) 5 km/h (d) 8 km/h

CHEMISTRY

SECTION – A

51. How much mass of silver nitrate will react with 5.85 g of sodium chloride to produce 14.35 g of silver chloride and 8.5 g of sodium nitrate if law of conservation of mass is followed?
(a) 22.85 g (b) 108 g (c) 17.0 g (d) 28.70 g

52. Which of the following pairs illustrates the law of multiple proportions?
(a) PH_3, HCl (b) PbO, PbO_2
(c) H_2S, SO_2 (d) $CuCl_2$, $CuSO_4$

53. At NTP, 1 L of O_2 reacts with 3L of carbon monoxide. What will be the volume of CO and CO_2 after the reaction?
(a) 1 LCO_2, 1 L CO (b) 2L CO_2, 2 L CO
(c) 1 L CO_2, 2 L CO (d) 2 L CO_2, 1 L CO

54. Iron can be obtained by reduction of iron oxide (Fe_3O_4) with CO according to the reaction:
$$Fe_3O_4 + 4CO \rightarrow 3Fe + 4CO_2$$
How many kg of Fe_3O_4 should be heated with CO to get 3 kg of iron?
(a) 8.12 kg (b) 4.14 kg
(c) 6.94 kg (d) 16.8 kg

55. The reference standard used for defining atomic mass is
(a) H – 1 (b) C – 12 (c) C – 13 (d) C -14

56. Which of the following gases will have least volume if 10 g of each gas is taken at same temperature and pressure?
(a) CO_2 (b) N_2 (c) CH_4 (d) HCl

57. Total number of atoms present in 34 g of NH_3 is
(a) 4×10^{23} (b) 4.8×10^{21} (c) 2×10^{23} (d) 48×10^{23}

58. What is the mass of carbon dioxide which contains the same number of molecules as are contained in 40 g of oxygen?
(a) 40 g (b) 55 g (c) 32 g (d) 44 g

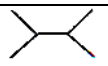
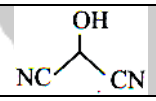
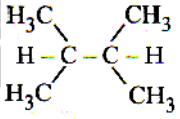
59. The empirical formula of a compound is CH_2O_2. What could be its molecular formula?
(a) $C_2H_2O_2$ (b) $C_2H_2O_4$ (c) $C_2H_4O_4$ (d) CH_4O_4

60. An organic compound on analysis gave C = 54.2%, H = 9.2% and remaining is oxygen by mass. Its empirical formula is
(a) CHO_2 (b) CH_2O (c) C_2H_8O (d) C_2H_4O

61. 2.82 g of glucose is dissolved in 30 g of water. The mole fraction of glucose in the solution is
(a) 0.01 (b) 0.99 (c) 0.52 (d) 1.66

62. Which mode of concentration does not change with temperature?
(a) Molarity (b) Normality
(c) Molality (d) All of these

63. Match the column I with column II and mark the appropriate choice.

Column-I		Column-II	
(A)	$N\equiv C-CH(OH)-C\equiv N$	(i)	$CH_3-(CH_2)_6-CH_3$
(B)		(ii)	
(C)		(iii)	
(D)	$HO(CH_2)_3CH(CH_3)CH(CH_3)_2$	(iv)	

(a) (A) → (iii), (B) → (iv), (C) → (i), (D) → (ii)
(b) (A) → (iv), (B) → (iii), (C) → (ii), (D) → (i)
(c) (A) → (i), (B) → (ii), (C) → (iv), (D) → (iii)
(d) (A) → (ii), (B) → (iii), (C) → (i), (D) → (iv)

64. Which of the following compound is not correctly match with its IUPAC name?
(a) $CH_3CH_2CH_2COOCH_2CH_3$ – Ethyl butanoate

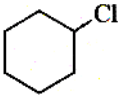
(b) $CH_3-CH(CH_3)-CH_2-CHO$ - 3-Methylbutanal

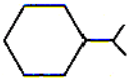
(c) $CH_3-CH(CH_3)-C(=O)-CH_2CH_3$ - 2-Methylpentan-3-one

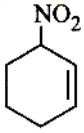
(d) $CH_3-CH(OH)-CH(CH_3)-CH_3$ - 3-Methylbutan-3-ol

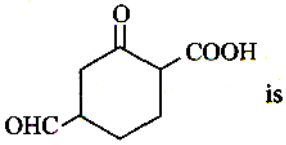
65. Which of the following IUPAC names is not correctly matched?

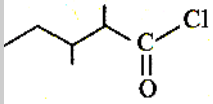
(a)  - Cyclopentane

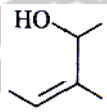
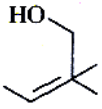
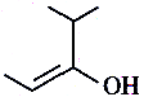
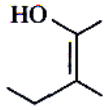
(b)  - Chlorocyclohexane

(c)  - 1,1-dimethylcyclohexane

(d)  - 3-Nitrocyclohexene

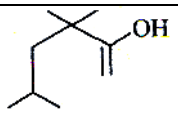
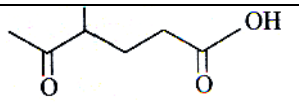
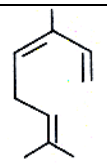
66. The correct IUPAC name of the compound  is
(a) 4-formyl-2-oxocyclohexanecarboxylic acid
(b) 4-carboxy-2-oxocyclohexanal
(c) 4-carboxy-1-formylcyclohexanone
(d) 2-carboxy-5-formyl-1-oxocyclohexane

67. The IUPAC name of  is
(a) 1-chloro-1-oxo-2, 3-dimethylpentane
(b) 2-ethyl-3-methylbutanoyl chloride
(c) 2, 3-dimethylpentanoyl chloride
(d) 3, 4-dimethylpentanoyl chloride

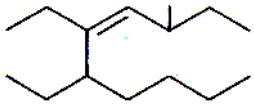
68. Correct representation of 3-methylpent-3-en-2-ol is
(a)  (b) 
(c)  (d) 

69. The correct decreasing order of priority for the functional groups of organic compounds in the IUPAC system of nomenclature is
(a) $-CONH_2$, $-CHO$, $-SO_3H$, $-COOH$
(b) $-COOH$, $-SO_3H$, $-CONH_2$, $-CHO$
(c) $-SO_3H$, $-COOH$, $-CONH_2$, $-CHO$
(d) $-CHO$, $-COOH$, $-SO_3H$, $-CONH_2$

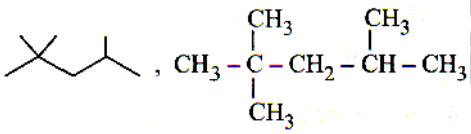
70. Match the compounds given in column I with the IUPAC names given in column II and mark the appropriate choice.

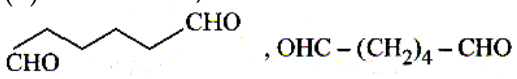
Column-I		Column-II	
(A)		(i)	3, 7-Dimethylocta-1, 3, 6-triene
(B)		(ii)	4-Methyl-5-, oxohexanoic acid
(C)		(iii)	3, 3, 5-Trimethylhex-1-en-2-ol
(D)		(iv)	4-Hydroxy-4-methylpentan-2-one

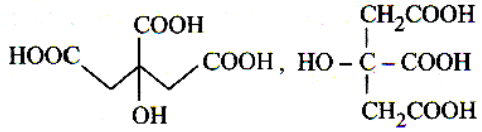
(a) (A) →(iii), (B) →(i), C→(iii), (D) →(iv)
(b) (A) →(iv), (B) →(ii), C→(i), (D) →(iii)
(c) (A) →(i), (B) →(iii), C→(ii), (D) →(iv)
(d) (A) →(iii), (B) →(iv), C→(ii), (D) →(i)

71. The correct IUPAC name of the compound  is

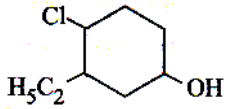
(a) 3-heptyl-5-methylhept-3-ene
(b) 5, 6-diethyl-3-methyldec-4-ene
(c) 5-butyl-3-methyloct-4-ene
(d) 8-methyl-3-propylhex-3-ene

72. Which of the following correctly depicts the bond line and condensed structure of the compounds?
(i) 2, 2, 4-Trimethylpentane, 

(ii) Hexanedial, 

(iii) 2-Hydroxypropane-1,2,3-tricarboxylic acid, 

(a) (i) (b) (ii)
(c) (i) and (ii) (d) (i), (ii) and (iii)

73. The correct IUPAC name of the following compound is 
(a) 2-ethyl-1-chlorocyclohexanol
(b) 4-chloro-5-ethylcyclohexanol
(c) 4-hydroxy-2-ethyl-1-chlorocyclohexane
(d) 4-chloro-3-ethylcyclohexanol

74. Which set has the same number of unpaired electrons in their ground state?
(a) Cl^-, Fe^{3+}, Cr^{3+} (b) N^+, Mg^{2+}, Al
(c) Na, P, Cl (d) N, P, V

75. The elements with atomic numbers 9, 17, 35, 53, 85 are all
(a) Noble gases (b) Halogens
(c) Heavy metals (d) Light metals

76. An element has electronic configuration $1s^2$, $2s^2$, $2p^6$, $3s^2$, $3p^3$. Predict their period, group and block
(a) Period = 3rd, block = p, group = 15
(b) Period = 5th, block = s, group = 1
(c) Period = 3rd, block = p, group = 10
(d) Period = 4th, block = d, group = 12

77. Electronic configuration of M^{3+} is [Ar] $3d^{10}$ $4s^2$, it belongs to
(a) *s*-block (b) *p*-block
(c) *d*-block (d) *f*-block

78. Which one of the following sets of ions represents the collection of isoelectronic species?
(a) K^+, Cl^-, Mg^{2+}, Sc^{3+} (b) K^+, Ca^{2+}
(c) Na^+, Ca^{2+}, Sc^{3+}, F (d) Na^+, Mg^{2+}, Al^{3+}, Cl

79. The ionic radii of N^{3-}, O^{2-} and F^- are respectively given by :
(a) 1.36, 1.40, 1.71 (b) 1.36, 1.71, 1.40
(c) 1.71, 1.40, 1.36 (d) 1.71, 1.36, 1.40

80. The ionic conductance of the following cations in a given concentration is in the order
(a) $Li^+ < Na^+ > K^+ > Rb^+$
(b) $Li^+ > Na^+ > K^+ > Rb^+$
(c) $Li^+ < Na^+ > K^+ > Rb^+$
(d) $Li = Na^+ < K^+ < Rb^+$

81. The correct order of the size is
(a) $Ca^{2+} > K^+ > Ar > Cl^- > S^{2-}$
(b) $K^+ > Ca^{2+} > Cl^- > Ar > S^{2-}$
(c) $S^{2-} > Cl^- > Ar > K^+ > Ca^{2+}$
(d) $S^{2-} > Ar > Cl^- > Ca^{2+} > K^+$

82. Which of the following alkali metal ions has the lowest ionic mobility in aqueous solutions?
(a) Rb^+ (b) Cs^+ (c) Li^+ (d) Na^+

83. Which one of the following is the smallest in size?
(a) Na^+ (b) O^{2-} (c) N^{3-} (d) F^-

84. The atomic radius of elements of which of the following series would be nearly the same
(a) Na K Rb Cs (b) Li Be B C
(c) Fe Co Ni Cu (d) F Cl Br I

85. Which of the following statements is correct?
(a) X^- ion is larger in size than X atom
(b) X^+ ion is larger in size than X atom
(c) X^+ ion is larger in size than X^- ion
(d) X^+ and X^- ions are equal to size

SECTION – B

86. How many number of aluminium ions are present in 0.051 g of aluminium oxide?
(a) 6.023×10^{20} ions (b) 3 ions
(c) 6.023×10^{23} (d) 9 ions

87. A compound of magnesium contains 21.9% magnesium, 27.8% phosphorus and 50.3% oxygen. What will be the simplest formula of the compound?
(a) $Mg_2P_2O_7$ (b) $MgPO_3$
(c) $Mg_2P_2O_2$ (d) MgP_2O_4

88. How much copper is present in 50 g of $CuSO_4$?
(a) 19.90 g (b) 39.81 g (c) 63.5 g (d) 31.71 g

89. The weight of AgCl precipitated when a solution containing 5.85 g of NaCl is added to a solution containing 3.4 g of $AgNO_3$ is
(a) 28 g (b) 9.25 g (c) 2.870 g (d) 58 g

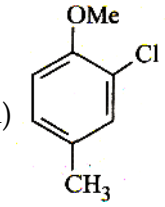
90. 125 gm sample of $CaCO_3$ is strongly heated then 56 gm of CaO is formed then % purity of $CaCO_3$ is
(a) 70 (b) 80 (c) 90 (d) 100

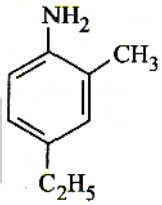
91. 4.28 g of NaOH is dissolved in water and the solution is made to 250 cc. What will be the molarity of the solution?
(a) 0.615 mol L^{-1} (b) 0.428 mol L^{-1}
(c) 0.99 mol L^{-1} (d) 0.301 mol L^{-1}

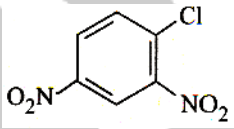
92. The correrct name of $CH_3CH_2-\underset{\underset{O}{\|}}{C}-\underset{\underset{CN}{|}}{CH}-CHO$ is
(a) 2-cyano-3-oxopentanal
(b) 2-formyl-3-oxopentanenitrile
(c) 2-cyano-1, 3-pentadiene
(d) 1, 3-dioxo-2-cyanopentane

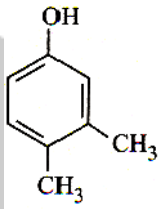
93. IUPAC name of $(CH_3)_3C-CH=CH_2$ is
(a) 2, 2-dimethylbut-3-ene
(b) 2, 2-dimethylpent-4-ene
(c) 3, 3-dimethylbut-1-ene
(d) hex-1-ene

94. Which of the following names of substituted benzene compounds is not correct?

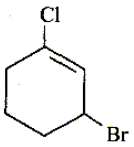
(a)  2-chloro-4-methylanisole

(b)  4-ethyl-2-methylaniline

(c)  4-chloro-1,3-dinitrobenzene

(d)  3,4-dimethylphenol

95. The IUPAC name of the compound shown below is



(a) 2-bromo-6-chlorocyclohex-1-ene
(b) 6-bromo-2-chlorocyclohexene
(c) 3-bromo-1-chlorocyclohexene
(d) 1-bromo-3-chlorocyclohexene

96. How many σ and π bonds are present in $HC\equiv C-CH=CH-CH_3$?
(a) $9\sigma, 4\pi$ (b) $10\sigma, 3\pi$
(c) $6\sigma, 6\pi$ (d) $5\sigma, 5\pi$

97. Which of the following order of atomic/ionic radius is not correct?
(a) $I^- > I > I^+$ (b) $Mg^{+2} > Na^+ > F^-$
(c) $P^{+5} < P^{+3}$ (d) Li > Be > B

98. The correct order of atomic radii is :
(a) Ce > Sn > Yb > Lu (b) Sn > Ce > Lu > Yb
(c) Lu > Yb > Sn > Ce (d) Sn > Yb > Ce > Lu

99. The ratio between radii of He^+ ion and H atom is
(a) 1 (b) $\frac{1}{2}$ (c) $\frac{3}{2}$ (d) 2

100. The radius of La^{3+} (at. No. 57) is 1.06 $\overset{0}{A}$. What may be the radius of Lu^{3+} (at no. 71)?
(a) 1.06 $\overset{0}{A}$ (b) 0.85 $\overset{0}{A}$
(c) 1.60 $\overset{0}{A}$ (d) 1.40 $\overset{0}{A}$

BOTANY

SECTION – A

101. Intracellular membranous compartmentalisation is the characteristic of
(a) Prokaryotes (b) Viruses
(c) Diatoms (d) Nostoc

102. Which of the following structures forms the connection between cytoplasm of neighbouring cells in plants ?
(a) Dictyosome (b) Plasmodesmata
(c) Middle lamella (d) Cell wall

103. Higher plant cells and animal cells are different as the former possess all **except**
(a) Plastids (b) Central vacuoles
(c) Cell walls (d) Centrioles

104. Match column I with column II w.r.t. prokaryotic cell and choose the **correct** option.

Column I	Column II
(A) Mesosomes	(i) Infoldings of cell membrane
(B) Pili	(ii) Helps in attachment with substratum
(C) Fimbriae	(iii) Involved in DNA transfer between two cells
(D) Chromatophores	(iv) Storage of pigments

(a) a(ii), b(i), c(iii), d(iv)
(b) a(iii), b(ii), c(iv), d(i)
(c) a(i), b(iii), c(ii), d(iv)
(d) a(iv), b(i), c(ii), d(iii)

105. All are true for tetrad formed during meiosis **except**
(a) Seen in pachytene
(b) A bivalent appears as tetrad
(c) Consists of four different homologous chromosomes
(d) Not seen in meiosis II

106. Which of the following scientists explained that "new cells are formed from pre-existing cells "?
(a) Schleiden (b) Virchow
(c) Schwann (d) R. Brown

107. Identify single membrane bound cell organelle among these.
(a) Mitochondria (b) Centriole
(c) Plastid (d) Lysosome

108. Cell wall of plants is constituted by all, **except,**
(a) Hemicellulose (b) Cellulose
(c) Chitin (d) Pectin

109. Find the **incorrect** statement w.r.t. bacterial cell envelope
(a) Prevents bacterium from bursting.
(b) Responds to gram staining technique.
(c) Some species have thick and tough sheath called slime layer.
(d) Related to pathogenicity.

110. The fluid present in between plasma membrane and the compartment where DNA replication occurs in a eukaryotic cell is
(a) Nucleoplasm (b) Cytoplasm
(c) Protoplams (d) Nucleous

111. Terminalisation of chiasmata is seen during
(a) Diplotene (b) Diakinesis
(c) Zygotene (d) Pachytene

112. Bacterial cell structure which has respiratory enzymes also helps in
(a) DNA replication (b) Mating process
(c) Photosynthesis (d) Locomotion

113. Synaptonemal complex forms during A stage whereas it dissolves during B stage.
Complete the above statement by choosing the **correct** option for A and B.

A	B
(a) Pachytene	Diakinesis
(b) Diplotene	Zygotene
(c) Pachytene	Zygotene
(d) Zygotene	Diplotene

114. Membrane proteins are classified into which of the following groups on the basis of ease of extraction ?
(a) Acidic and basic
(b) Polar and non-polar
(c) Integral and peripheral
(d) Structural and enzymatic

115. Nuclear membrane is re-formed during cell cycle, in the stage
(a) Prophase (b) Metaphase
(c) Anaphase (d) Telophase

116. Prokaryotes **cannot** have
(a) Nuclear membrane (b) Nucleoid
(c) Cell wall (d) Plasma membrane

117. Read the following statements and state **true (T)** or **false (F)** and select the correct option.
(A) RER provides precursor of enzymes of lysosomes.
(B) Glycosylation of proteins is facilitated by lysosomes.
(C) Breakdown of proteins with the help of proteases is a function of the suicidal bag of the cell.
(D) Maintenance of osmotic concentration of cell is aided by the organelle involved in the synthesis of carbohydrates.

	A	B	C	D
(a)	T	F	T	F
(b)	F	T	F	T
(c)	T	T	F	F
(d)	T	F	T	T

118. Na^+- K+ pump helps in
(a) Active transport
(b) Passive transport
(c) Transport which does not use ATP
(d) Simple diffusion

119. The best stage to study the shape of the chromosomes is
(a) Anaphase (b) S phase
(c) Prophase (d) Telophase

120. A polysome contains
(a) Many ribosomes and a single m-RNA
(b) Single ribosolme and many m-RNAs
(c) Single ribosome and single m-RNA
(d) Many ribosomes and many m-RNAs

121. The chromosome having p and q arm
(a) Appear V-shaped during anaphase
(b) Appear L shaped during anaphase
(c) Is telocentric chromosome
(d) Has centromere at terminal end

122. In A of some vertebrates. During meiosis I, B stage lasts for month or years, Here A and B are respectively

A	B
(a) Oocytes	Pachytene
(b) Spermatocyte	Lepotene
(c) Oocytes	Diplotene
(d) Spermatocyte	Zygotene

123. Syncytium
(a) Is a single cell containing single nucleus
(b) Occurs when karyokinesis is followed by cytokinesis
(c) Occrus in all dead cells
(d) Is single cell containing multiple nuclei

124. Interkinesis does **not** involve
(a) Centriole duplication (b) DNA replication
(c) RNA formation (d) Protin synthesis

125. In animal cells cytokinesis occurs by
(a) Cell plate formation
(b) Centrifugal movement of plasma membrane
(c) Furrow formation in plasma membrane
(d) Formation of phragmoplast

126. In a plant cell, vacuole
(a) Can occupy maximum 50% of the volume of cell
(b) Contains water, sap and excretory products
(c) Helps in providing the buoyancy
(d) Are non-membrabne bound structures

127. Bacteria exhibit movement with the help of
(a) Glycocalyx (b) Flagella
(c) Inclusion bodies (d) Capsule

128. Nuclear envelope is present in,
(a) *Rhizobium* (b) *Ulothrix*
(c) *Spirulina* (d) *Methanobacterium*

129. A protoplast is
(a) Plasma membrane + Protoplasm
(b) Cell wall + Protoplasm
(c) Cytoplasm + Nucleoplasm + Cell wall
(d) Cell wall + Cytoplasm

130. Choose the **correct** sequence of events that occur is sub-stages of prophase I.
(A) Occurrence of synapsis.
(B) Appearance of chiasmata.
(C) Crossing over between homologous chromosomes.
(D) Condensation and coiling of chromatin fibres begins.
(a) $A \rightarrow B \rightarrow D \rightarrow C$ (b) $D \rightarrow A \rightarrow C \rightarrow B$
(c) $B \rightarrow C \rightarrow D \rightarrow A$ (d) $C \rightarrow D \rightarrow B \rightarrow A$

131. **Assertion (A) :** Plasma membrane plays an important role in cell growth, formation of intercellular junctions, secretion, endocytosis etc.
Reasion (R) : Plasma membrane possesses fluid nature.
In the light of above statements choose the **correct** option.
(a) Both A and R are true and R is correct explanation of A.
(b) Both A and R are true but R is not correct explanation of A.
(c) A is correct but R is incorrect.
(d) A is incorrect but R is correct.

132. Major site for the synthesis of steroidal hormones is
(a) SER (b) RER
(c) Plastid (d) Mitochondria

133. A diploid root tip cell with 12 chromosomes and 20 pg of DNA content undergoes cell division, what will be the number of chromosomes and amount of DNA present in cell in prophase ?
(a) 12 and 40 pg (b) 24 and 40 pg
(c) 12 and 20 pg (d) 24 and 80 pg

134. Attachment of spindle fibres to kinetochores of chromosomes is seen in
(a) Prophase (b) Anaphase
(c) Metaphase (d) Telophase

135. Which of the following cell organelles is involved in photorespiration ?
(a) Glyoxysomes
(b) Peroxisome
(c) Sphaerosome
(d) Endoplasmic reticulum

SECTION - B

136. Small bristle like structures that help bacteria to attach to host tissue is
(a) Called fimbriae
(b) Longer than flagella
(c) Composed of protein
Choose the **correct** one (s).
(a) (a) and (b) (b) (b) and (c)
(c) (a) only (d) (a) and (c)

137. Read the statements and chose the **correct** option.
(A) Gas vacuoles are found in purple photosynthetic bacteria.
(B) Prokaryotic ribosome contains 50S and 30S subunits.
(a) Only A is correct
(b) Only B is correct
(c) Both A and B are correct
(d) Both A and B incorrect

138. Inclusion bodies
(a) Are found in eukaryotes
(b) Store reserve food material
(c) Are single membrane bound
(d) Include gasd vacuoles and sap vacuoles

139. State the following statements as true (T) or false (F) and select the correct option.
(A) Integral proteins are partially or totally buried in the membrane.
(B) Human RBC membrane has approximately 40% proteins.
(C) Proteins move laterally within overall bilayer of membrane.

	A	B	C
(a)	T	T	T
(b)	F	T	F
(c)	T	F	T
(d)	F	F	T

140. The component of endomembrane system that have ribosomes
(a) Is major site for synthesis of lipids
(b) Is involved in protein synthesis and secretion
(c) Is double membrane bound
(d) Was discovered by Camillo Golgi

141. The cis face of Golgi cisternae is
(a) Also called forming face
(b) Concave shaped
(c) Also called maturing face to which vesicles coming from ER fuses
(d) Similar to trans face

142. Find the **incorrect** statement for mitochondria.
(a) Not easily visible under microscope
(b) Inner membrane forms several infoldings
(c) Divide by fission
(d) The only double membrane bound structure of animals cells

143. Palade particles
(a) Are granular structure
(b) Are made up of DNA and proteins
(c) Are single membrane bound
(d) Are found in cytoplasm only

144. What will be the number of chromosome in S phase if the number of chromosome in G_1 phase is 46 ?
(a) 23 (b) 92 (c) 12 (d) 46

145. During which stage of mitosis, the chromosomes move towards the pole?
(a) Telophase (b) Anaphase
(c) Prophase (d) Interphase

146. Select the **incorrect** statement w.r.t. telophase
(a) It is the final stage of karyokinesis during mitosis
(b) Chromosomes reach their respective poles
(c) Golgi bodies, nucleolus and other organelles reappear
(d) Chromosomes at the poles start to condense

147. In some organisms multinucleate condition arises when
(a) Cytokinesis is not followed by karyokinesis
(b) Karyokinesis is not followed by cytokinesis
(c) Chromosomes do not align along metaphase plate
(d) Chromosomes are decondensed at the poles

148. Which stage of cell division does the given figure represent?

(a) Telophase
(b) Prophase
(c) Interphase
(d)Transition to metaphase

149. The homologous chromosomes separate, while sister chromatids remain associated at their centromeres during
(a) Telophase I (b) Metaphase II
(c) Anaphase II (d) Anaphase I

150. Meiosis involves
(a) Pairing of homologous chromosomes
(b) Recombination between homologous chromosomes
(c) Pairing of non-homologous chromosomes
(d) Both (a) and (b)

ZOOLOGY

SECTION - A

151. Which is not a function of cnidoblast in cnidaria.
(a) Anchorage (b) Defence
(c) Capture of prey (d) Storage of food

152. Metagenesis occur in:
(a) Adamsia (b)Obelia
(c) Aurelia (d) Gorgonia

153. "Bioluminescence" property is present in:
(a) Ctenophora (b) Mollusca
(c) Aschelminthes (d) Annelida

154. In phylum porifera, water transport is helpful in
(a) Food gathering
(b) Respiratory exchange
(c) Removal of waste
(d) All of these

155. Radial symmetry is present in which phylum.
(a) Aschelminthes (b) Sponges
(c) Echinoderm (d) (a) and (b) both

156. In annelids, arthropods which type of symmetry is found.
(a) Radial symmetry (b) Bilateral symmetry
(c) Asymmetrical (d) (a) and (c) both

157. Cellular level of organisation are present:
(a) Annelida (b) Porifera
(c) Ctenophora (d) Platyhelminthes

158. Which of the following kinds of animals are triploblastic:
(a) Ascaris (b) Ctenophores
(c) Pennatula (d) Sponges

159. Which one of the following worm is known as filarial worm:
(a) *Ascaris* (b) *Wuchereria*
(c) *Ancylostoma* (d) *Hirudinaria*

160. Which is not the respiratory organ of arthropoda:
(a) Gills (b) Book gills
(c) Book lungs (d) Skin

161. The body of arthropods is covered by:
(a) Chitinous exoskeleton
(b) Calcareous shell
(c) Spicules or spogin fibres
(d) Chitinous endoskeleton

162. "Flame cells" are present in which phylum:
(a) Ctenophora (b) Platyhelminthes
(c) Aschelminthes (d) Mollusca

163. Body cavity of cnidarians is known as:
(a) Schizocoelom
(b) Enterocoelom
(c) Pseudocoelom
(d) Gastro-vascular cavity

164. Ciliated comb plates are the features of.
(a) Physalia (b) Pleurobrachia
(c) Taenia (d) Sycon

165. Choose the economically important insects:
(a) Honey bee (b) Silkworm
(c) Lac insect (d) All of these

166. Water vascular system is found in:
(a) Porifera (b) Echinodermata
(c)Mollusca (d) Ctenophora

167. Malpighian tubules are:
(a) Excretory organ of arthropoda
(b) Excretory organ of annelids
(c) Respiratory organ of insects
(d) Respiratory organ of annelids

168. Metameric segmentation is the characteristics of:
(a) Mollusca and chordate
(b) Platyhelminthes and arthopoda
(c) Echinodermata and annelida
(d) Annelida

169. The space between the hump and the mantle is called.
(a) Oral cavity (b) Buccal cavity
(c) Mantle cavity (d) All of these

170. Corals are present in:
(a) All cnidarians (b) Some cnidarians
(c) Platyhelminthes (d) (a) and (b) both

171. How many organism possess organ system level of organization
Nereis, Hirudinaria, Ascaris, Ctenoplana Obelia, adamsia, Spongilla, sycon:
(a) 5 (b) 4 (c) 3 (d) 2

172. Proboscis gland helps in:
(a) Circulation (b) Respiration
(c) Excretion (d) Digestion

173. Parapodia is present in:
(a) Pila (b) Locust
(c) Nereis (d) Ascaris

174. In the phylum annelida, nephridia help in:
(a) Locomotion and movement
(b) Digestion and excretion
(c) Osmoregulatiion and excretion
(d) Respiration and excretion

175. Organ level of body organization is shown by:
(a) Obelia (b) Euspongia
(c) Taenia (d) Spongilla

176. Which of the following is commonly called" pearl oyster?
(a) Limulus (b) Dentalium
(c) Pinctada (d) Aurelia

177. Radula are present in:
(a) Hemichordata (b) Chordata
(c) Echinodermata (d) Mollusca

178. Which of the following is a correct matching pair.
(a) Radial symmetry - Annelida
(b) Coelomates – Aschelminthes
(c) Unsegmented body – Mollusca
(d) Triploblastic – Sponges

179. In the mollusca file like rasping organ helps in:
(a) Sucking (b) Feeding
(c) Chewing (d) Cuting

180. Bilateral symmetry, segmentation, coelomate and open circulatory system characterises which of the following phyla?
(a) Annelida (b) Mollusca
(c) Arthropoda (d) Echinodermata

181. First time Alimentary canal complete with a well developed muscular pharynx which of the following phyla in present:
(a) Aschelminthes
(b) Annelida
(c) Hemichordata
(d) Arthopoda

182. Worm like proboscis, collar, trunk with complete digestive system is:
(a) *Saccoglossus*
(b) Hemichordata
(c) *Balanoglossus*
(d) All of the above

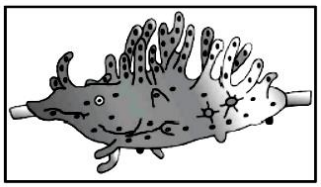
183. Phylum annelida possess:
(a) Longitudinal muscles only
(b) Circular muscles only
(c) Both (a) & (b) and help in respiration
(d) Both (a) & (b) and help in locomotion

184. Which is a correct matching set:

	Column – I		Column – II
(A)	Cellular level	(i)	Mollusca
(B)	Tissue level	(ii)	Platyhelminthes
(C)	Organ level	(iii)	Ctenophora
(D)	Organ system	(iv)	Porifera

(a) A – iv, B – iii, C – ii, D – i
(b) A – iii, B – iv, C - ii, D - i
(c) A – ii, B - iv, C – iii, D – i
(d) A – i, B – ii, C – iii, D – iv

185. How many statement are correct for given diagram.



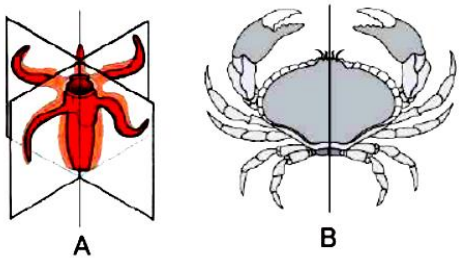
1. It is marine
2. Triplobastic
3. It is fresh water
4. It is unisexual
5. Ostia present

(a) 2 (b) 3 (c) 4 (d) 1

SECTION - B

186. Which of the following statement is incorrect with regarding to phylum porifera:
(a) The body is supported by a skeleton made up of spicules or spongin fibres
(b) Fertilization is external and development is indirect
(c) Sponges have a water transport or canal system
(d) Choanocytes or collar cells line the spongocoel and the canals

187. Identify type of symmetry in the given animals A and B:



	A	B
(a)	Bilateral	Asymmetrical
(b)	Bilateral	Bilateral
(c)	Radial	Bilateral
(d)	Radial	Radial

188. Match the following columns:

	Column – I		Column – II
A.	Pseudocoelomates	(i)	Coelenterata
B.	Asymmetrical	(ii)	Annelida
C.	Metamerism	(iii)	Porifera
D.	Diploblastic	(iv)	Aschelminthes

(a) A–i, B–ii, C–iii, D–iv
(b) A–iv, B–iii, C–ii, D–i
(c) A–ii, B–iv, C–i, D–iii
(d) A–iv, B–i, C–ii, D–iii

189. How many organism show Bilateral symmetry *Fasciola, Wuchereria, Nereis, Hirudinaria, Sponges Obelia, Physalia, Ctenoplana*, *Hydra* etc.
(a) 9 (b) 7 (c) 4 (d) 3

190. Choose the correct statements of the following:
(a) Cnidarians are aquatic and radially symmetrical animals
(b) Cnidarians exhibit tissue level of organisation and are diploblastic
(c) Cnidarians exhibit two basic body forms called" polyp" and "medusa"
d) All of the above

191. Which group of animal belong to the same phylum
(a) Prawn, Scorpion, Locust
(b) Sponge, sea anaemone, starfish
(c) Malerial parasite, Hydra, mosquito
(d) Earthworm, Pinworm, Tapeworm

192. Select the correct statements with reference to sponge:
A. These are primitive multicellular animals and
have cellular level of organization
B. Sponges have a water canal system
C. Sponges reproduce sexually by fragmentation

and asexually by formation of gametes
D. Choanocytes or collar cells line the spongocoel and the canals
(a) A, B & C (b) A & B only
(c) A, B & D (d) only C

193. Which of the following are examples of arthropoda:
(a) Silver Fish, Star Fish, Prawn
(b) Tapeworm, apple snail, honey bee
(c) Sea star, Tapeworm, scorpion
(d) Prawn, Honey bee, Bombyx

194. Which of the following have porous body and diploblastic:
(a) *Aurelia* & *obelia*
(b) *Adamsia* & *Euplectella*
(c) *Euspongia* & *spongilla*
(d) *Sycon* & *Hydra*

195. In most simple type or canal system of porifera whcih of the following ways exhibit water flow?
(1) Ostia→ Spongocoel → Osculum→ Exterior
(2) Spongocoel → Ostia→ Osculum→ Exterior
(3) Osculum→ Spongocoel→ Ostia→ Exterior
(4) Osculum→ Ostia → Spongocoel→ Exterior

196. How many animals among following have jointed appendages.
Bombyx, Apis, Limulus, Sepia, octopus, Earthworm:
(a) 3 (b) 4 (c) 5 (d) 6

197. Match the column I with the Column – II

	Column – I		**Column – II**
A.	*Limulus*	(i)	Mosquitoes
B.	*Aedes*	(ii)	King crab
C.	*Apis*	(iii)	Lac insect
D.	*Laccifer*	(iv)	Honey bee

(a) A–ii, B–i, C–iv, D–iii
(b) A–iii, B–i, C–iv, D–ii
(c) A–i, B–ii, C–iv, D–iii
(d) A–ii, B–iii, C–iv, D–i

198. Which of the following group is formed of only the hermaphrodite organism?
(a) Earthworm, tapeworm, housefly, frog
(b) Earthworm, tapeworm, seahorse, housefly
(c) Earthworm, leech, sponge, roundworm
(d) Earthworm, tapeworm, leech, sponge

199. An organism which have bilateral symmetry, triploblastic, coelomate, organ-system level, post anal tail & closed circulatory system belongs to:
(a) Mollusca
(b) Arthropoda
(c) Chordata
(d) Hemichordata

200. What happens in metagenesis (Obelia) :
A. *Polyp* produce *medusae* sexually
B. *Medusae* produced *polyp* sexually
C. *Polyps* produce *medusae* asexually
D. *Medusae* produced *polyp* asexually
(1) A, D (2) B, C
(3) A, B (4) C, D

TEST ASSESMENT AND ANALYSIS SHEET

Name……..……Test topic - ……..Date ……

Physics	**Marks per question**	**Total Ques.**	**Attempted**	**Unattempted**	**Correct**	**Incorrect**	**Net score**
Multiple choice questions							
Q. No. (Incorrect)							
Q. No. (Unattempted)							
Chemistry	**Marks per question**	**Total Ques.**	**Attempted**	**Unattempted**	**Correct**	**Incorrect**	**Net score**
Multiple choice questions							
Q. No. (Incorrect)							
Q. No. (Unattempted)							
Biology	**Marks per question**	**Total Ques.**	**Attempted**	**Unattempted**	**Correct**	**Incorrect**	**Net score**
Multiple choice questions							
Q. No. (Incorrect)							
Q. No. (Unattempted)							
Total net score							