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Admission-cum-Scholarship Test

(Sample Paper)

(For XII-cum-Medical Entrance Exams. 2013)

(Syllabus of the Test : Physics, Chemistry & Biology of Class XI)

Roll No.:

Test Booklet Code: A

Time : 1¹/₂ Hrs.

Max.Marks: 400

INSTRUCTIONS TO THE CANDIDATES

- 1. The initial 10 minutes are earmarked for the candidates to carefully read the instructions. (Note : The candidates are not allowed to either look inside the question booklet or start answering during these initial 10 minutes.)
- 2. The question booklet and answer sheet are issued separately at the start of the examination.
- 3. This question booklet contains 100 questions.
- 4. Read each question carefully.
- 5. Determine the correct answer, one out of the four available choices given under each question.
- 6. It is mandatory to use Ball Point Pen to darken to appropriate circle in the answer sheet.
- 7. For each correct answer, **four** marks will be awarded. For each wrong answer, (1/4) mark will be deducted.

For Example

Q. 12 : In the Question Booklet is: Which one of the following is linear in Geometry ?

(Answer Sheet) Q.12. ① ❷ ③ ④

- (1) SO₂
- (2) CO₂
- (3) NO₂
- (4) KO₂

Thus as the correct answer is choice 2, the candidate should darken completely (with a blue/black Ball point pen only) the circle corresponding to choice 2 against Question No. 12 on the Answer Sheet. If more than one circle is darkened for a given question such answer will be rejected.

- 8. Do not use white-fluid or any other rubbing material on answer sheet. No change in the answer once marked is allowed. Before handing over the answer sheet to the invigilator, candidate should check that **Roll No.** and **Test-Booklet code** have been filled and marked correctly.
- 9. Rough work should be done only on the space provided in the question booklet.
- 10. Immediately after the prescribed examination time is over, the **Answer sheet and Question booklet are to be returned to the invigilator.** If the candidate wants to leave the examination hall before time, he/she should hand over the question paper and answer sheet to the invigilator. However, no student can leave the examination hall before half time.

PHYSICS

Choose the correct answer :

- The length, breadth and thickness of a block are measured as 125.1 cm, 5.1 cm and 0.81 cm. Which of the following measurement is most precise?
 - (1) Thickness
 - (2) Length
 - (3) Breadth
 - (4) All have the same preciseness
- 2. A particle starts moving from rest along a straight line with constant acceleration. If S_1 is the distance travelled by it in first 10 second and S_2 be the distance travelled in the next 5 second then the ratio of S_1 to S_2 will be
 - (1) 4:7 (2) 4:9
 - (3) 4:5 (4) 2:1
- 3. A ball is projected from ground vertically upward with a certain velocity. Which of the following curve best represents the variation of velocity of the ball with time?



4. A boy throws a ball from the top of a tower with velocity 20 m/s in horizontal direction. The speed of the ball after 2 second will be nearly

(1) 2	20 m/s	(2)	28 m/s

(3) 40 m/s (4) 56 m/s



5. For what value of α the two vectors $\vec{a} = \hat{i} + 2\hat{j} + \hat{k}$

and $\vec{b} = 2\hat{j} + \alpha \hat{i} - 10\hat{k}$ are mutually perpendicular?

- (1) 4 (2) 6
- (3) 14 (4) -6
- 6. An aeroplane of mass 1000 kg is moving in a circular path of radius 1000 m with speed 720 km/h. The force acting on the aeroplane is

(1)	40 N	(2)	40	kΝ
(1)	TOIN	(4)	70	IVI M

- (3) 80 kN (4) 20 kN
- 7. Two blocks of masses 5 kg and 10 kg are placed on a smooth surface as shown in figure. The tension *T* in the string will be



(1) 20 N (2) 60 N

- (3) 40 N (4) Zero
- 8. A particle is dropped from a height h_0 on a horizontal floor. The coefficient of restitution between the particle and the floor is 0.5. What is the maximum height after first rebounce?
 - (1) $\frac{h_0}{2}$ (2) $\frac{h_0}{\sqrt{2}}$ (3) $\frac{h_0}{4}$ (4) $\frac{h_0}{16}$
- 9. A particle is acted upon by a force F = 10 N which displaces it by 10 m in a direction 60° with the force. The work done by the force will be

(3) 86.6 J (4) 50 J

- 10. What is the moment of inertia of a disc of mass *M* and radius *R* about an axis passing through its circumference and parallel to its geometrical axis?
 - (1) $\frac{1}{2}MR^2$ (2) $\frac{3}{2}MR^2$
 - (3) MR^2 (4) 2 MR^2
- 11. A solid sphere of mass M is pulled horizontally on a rough surface as shown in figure and the sphere is in pure rolling. The acceleration of centre of mass of the sphere will be





12. The value of acceleration due to gravity at the surface of earth is g. What will be value of acceleration due to gravity at a height 2R above the surface of the earth?

(1)	$\frac{g}{4}$	(2)	8 <u>g</u> 9
(3)	$\frac{3g}{4}$	(4)	<u>g</u> 9

13. A satellite is orbiting around the earth in an orbit of radius *r* with time period *T*. If its orbital radius is increased by three times of its initial value, then new time period of the satellite will be

s√3 T	
i٦	√3 I

(3)	8 <i>T</i>	(4)	64 <i>T</i>

14. When some deforming force is applied on a rod, the elongation in it is x and energy stored in the rod is U. If the elongation is increased to 2x, then the energy stored in the rod will be

(1)	2 <i>U</i>	(2)	4 <i>U</i>
(3)	3 <i>U</i>	(4)	9U

Space For Rough Work

- 15. The terminal velocity of a steel ball of radius r in a liquid is v. If a ball of radius 1.5r of same material is dropped in the same liquid, then the percentage increase in its terminal velocity will be
 - (1) 25% (2) 50%
 - (3) 125% (4) 300%
- 16. The three vessels shown in figure have same base area *a*. All the vessels are filled with a liquid to the same height *H*. The force exerted by the liquid at the base area will be



- (1) Minimum in *A* (2) Minimum in *B*
- (3) Minimum in C (4) Equal in all vessels
- 17. The rms speed of an ideal diatomic gas at room temperature is *v*. When temperature is doubled the gas dissociates into atoms. The new value of rms speed will be
 - (1) $\sqrt{2}v$ (2) 2v
 - (3) $2\sqrt{2}v$ (4) 4v
- 18. An ideal gas with adiabatic exponent $\left(i.e., \frac{C_P}{C_V}\right) \gamma$

is heated at constant pressure. It absorbs Q heat. The value of work done by the gas will be

(1)
$$\frac{Q}{\gamma}$$
 (2) $Q\left(1-\frac{1}{\gamma}\right)$

$$(3) \quad \frac{\gamma Q}{\gamma - 1} \qquad (4) \quad \gamma Q$$

- 19. Which of the following is not a thermodynamic property?
 - (1) Pressure (2) Volume
 - (3) Heat (4) Temperature

20. Two conductors *A* and *B* are connected in parallel as shown in figure. If length of each conductor is *I*, area of cross section is *A* and thermal conductivities are *k* and 2*k*, the rate of flow of heat through the combination will be



- 21. Two solid spheres of same materials are heated to same temperature and are placed in the same surroundings. Their radii are in ratio 1 : 2. The ratio of the rate of cooling of the two spheres will be
 - (1) 2 : 1 (2) 1 : 2
 - (3) 1:4 (4) 4:1
- 22. A particle is executing SHM with amplitude A and having maximum velocity v_0 . The velocity of the



23. In the situation shown in figure, the pulley and the spring are massless. The time period of oscillation of the block for small vertical displacement will be



- 24. If the speed of sound in air at 0°C is 331 m/s, then the value of speed of sound in air at 51°C will be nearly
 - (1) 310 m/s (2) 335 m/s
 - (3) 360 m/s (4) 400 m/s
- 25. An organ pipe of effective length 68 cm is closed at one end. If the speed of sound in air at that temperature is 340 ms⁻¹, what should be the minimum value of frequency of a tuning fork to obtain resonance ?
 - (1) 125 Hz (2) 250 Hz
 - (3) 325 Hz (4) 500 Hz

CHEMISTRY

- 26. A vessel contain H_2 and O_2 in the molar ratio of 8 : 1 respectively. This mixture of gases is allowed to diffuse through a hole. What will be composition of the mixture coming out of hole?
 - (1) 1:32 (2) 1:16
 - (3) 32:1 (4) 16:1
- 27. For one mole gas at low pressure compressibility factor will be

(1) $\frac{Pb}{RT} + 1$	(2) 1- a RTV
(3) $\frac{Pb}{RT} - 1$	(4) 1+ <mark>a</mark> RTV

- At which of the following conditions volume of 1 mole gas at 1 bar pressure and 25°C temperature will be double of the volume of this gas
 - (1) 50°C at 1 bar (2) 323°C at 1 bar
 - (3) 25°C and 2 bar (4) 100°C and 0.5 bar
- 29. If equal volume of two solution with pH = 5 and pH = 9 are mixed together, what will be new pH of solution?
 - (1) 4 (2) 14
- $(4) \quad (7) \quad (7)$

Space For Rough Work

Sample Test Paper

30. Which of the following can show variable covalency because of use of vaccant p-orbital? (1) B (2) Be (3) Both (1) & (2) (4) Si 31. Oxidation of Cr in CrO ₆ is (1) +6 (2) +10 (3) +8 (4) 0 32. Which of the following element is detected by Lassuigne's extract? (1) Carbon (2) Oxygen (3) Sulphur (4) Hydrogen 33. What would be pH of mixture of 50 ml of 0.1 M CH ₃ COOH and 50 ml of 0.05 M NaOH if (pK ₃ = 4.74)? (1) 9.26 (2) 9 (3) 4.74 (4) 5.74 34. 36 g of metal oxide on reduction give 30 g metal. What would be equivalent mass of metal? (1) 36 (2) 40 (3) 2.4 (4) 20 35. Masses of equal volume of CH ₄ and a gas X are in ratio of 1 : 5. What would be vapour density of gas X? (1) 0.5 (2) 20 (3) 4.48 (4) 8.96 37. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra? (1) 1 st line of Balmer series (3) 1 st line of Balmer series (4) 1 st line of Paschen series (5) 1 st line of Paschen series (4) 1 st line of Paschen series (4) 1 st line of Paschen series (5) 1 st line of Paschen series (6) 1 st line of Paschen series (7) H ^c CH ₂	xams. 2013
(3) Both (1) & (2)(4) Si31. Oxidation of Cr in CrO5 is(1) +6(2) +10(3) 2-Ethyl Propane-1-ol(3) +8(4) 0(3) 2-Methyl Butane(3) 2-Methyl Butane(3) Carbon(2) Oxygen(3) 2-Methyl Butane(3) 2-Methyl Butane(1) Carbon(2) Oxygen(3) Sulphur(4) Hydrogen(3) Sulphur(4) Hydrogen(3) 10(4) 15(3) Sulphur(4) Hydrogen(3) 10(4) 15(3) Mat would be PH of mixture of 50 ml of 0.1 M CH ₂ COOH and 50 ml of 0.05 M NaOH if (pKs = 4.74)?(4) 5.74(1) 9.26(2) 9(3) 4.74(4) 5.74(1) 9.26(2) 9(3) Br(4) 1(3) 4.74(4) 5.74(4) 1(1) 36(2) 40(3) Ert shape and trigonal planar(1) 36(2) 40(3) Linear, linear(3) 24(4) 20(3) Linear, linear(3) 324(4) 20(3) Linear, linear(3) 40(4) 80(3) PCI ₅ —PC ⁰ I4(3) 40(4) 80(3) PCI ₅ —H ₀ —PC ⁰ I4(3) 4.48(4) 8.96(3) PCI ₅ —H ₀ —PCOI3(4) 11.12(2) 2.224(3) 4.48(3) 4.48(4) 8.9637. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra?(1) CaCO3 $_$ CaO + CO2(1) 1 st line of Blamer series(2) CH ₂ CI-CH ₂ CI $_$ Zn digit $_$ CH ₂ = CH ₂ + (3) H ₂ O + CH ₃ COONa \longrightarrow CH ₃ COOH +	name of
31. Oxidation of Cr in CrOs is(1) $2 + 9$ (1) (3) $3 + 8$ (4) 032. Which of the following element is detected by Lassuigne's extract?(3) $2 - 4$ (4) 0(3) $2 - 4$ (4) 032. Which of the following element is detected by Lassuigne's extract?(3) $2 - 4$ (4) 0(3) $2 - 4$ (4) 133. What would be pH of mixture of 50 ml of 0.1 M CH ₃ COOH and 50 ml of 0.05 M NaOH if (pK ₆ = 4.74)?(1) 12 (2) 14(1) 9.26 (2) 9(1) 12 (2) F(1) 9.26 (2) 9(3) 4.74 (4) 5.74 34. 36 g of metal oxide on reduction give 30 g metal. What should be equivalent mass of metal?(4) 1(1) 36 (2) 40 (3) 24 (4) 20 (3) Linear, linear(3) 24 (4) 20 (3) Linear, linear(3) 40 (4) 80 (2) $H_3BO_3 \xrightarrow{HO}$ PCCl ₃ (3) 40 (4) 80 (2) $H_3BO_3 \xrightarrow{HO}$ PCCl ₃ (3) 4.48 (4) 8.96 (3) PCl ₅ \xrightarrow{HO} PCCl ₃ (4) Trigonal planar, pyramidal(2) $H_3BO_3 \xrightarrow{HO}$ PCCl ₃ (3) 4.48 (4) 8.96 (3) PCl ₅ \xrightarrow{HO} PCCl ₃ (4) PCl ₃ \xrightarrow{HO} PCCl ₃ (5) 1^{44} line of Balmer series(7) 1^{44} line of Balmer series(7) 1^{44} line of Barkers series	
31.Oxidation of Cr in CrO5 is(2) 2-Ethyl Propane-1-ol(1) +6(2) +10(3) 2-Methyl Butane-1-ol(3) +8(4) 0(3) 2-Methyl Butane-1-ol(3) +8(4) 0(3) 2-Methyl Butane-1-ol(3) Carbon(2) Oxygen(3) 2-Methyl Butane-1-ol(1) Carbon(2) Oxygen(3) 2-Methyl Butane-1-ol(1) Carbon(2) Oxygen(3) 10(3) Sulphur(4) Hydrogen(3) What would be pH of mixture of 50 ml of 0.1 M CH ₂ COOH and 50 ml of 0.05 M NaOH if (pKa = 4.74)?(4) 5.74(1) 9.26(2) 9(1) 9.26(2) 9(1) 9.26(2) 9(1) 9.26(2) 9(1) 36(2) 40(3) 24(4) 5.7434.36 g of metal oxide on reduction give 30 g metal. What should be equivalent mass of metal?(1) 36(2) 40(3) 24(4) 2035.Masses of equal volume of CH ₄ and a gas X are in ratio of 1 : 5. What would be vapour density of gas X?(1) 0.5(2) 20(3) 40(4) 8036.What will be volume strength of $\frac{1}{5}$ N H ₂ O ₂ ?(1) 1.12(2) 2.24(3) 4.48(4) 8.9637.Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra?(1) 1st line of Balmer series(2) 1st line of Lyman series(3) 1st line of Lyman series(4) 1st line of Lyman series(5) 1st line of Lyman series(6) H ₂ O + CH ₂ COONa \longrightarrow CH ₂ COON \rightarrow CH ₂ COON +	
(3) +8(4) 032. Which of the following element is detected by Lassuigne's extract?(4) Ethyl, methyl ethanol33. What would be pH of mixture of 50 ml of 0.1 M CH ₂ COOH and 50 ml of 0.05 M NaOH if (pK _a = 4.74)?(3) 10(1) 9.26(2) 9(3) 4.74(4) 5.7434. 36 g of metal oxide on reduction give 30 g metal. What should be equivalent mass of metal?(1) 36(1) 36(2) 40(3) 24(4) 2035. Masses of equal volume of CH ₄ and a gas X are in ratio of 1 : 5. What would be vapour density of gas X?(1) PCl ₅ —PC \mathbb{I}^4 (1) 1.12(2) 2.24(3) 4.48(4) 8.9636. What will be volume strength of $\frac{1}{5}$ N H ₂ O ₂ ?(1) 1.12(1) 1.12(2) 2.24(3) 4.48(4) 8.9637. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra? (1) 1 st line of Balmer series(2) 1 st line of Lyman series1 st line of Lyman series(3) 1 st line of Lyman series1 st line of Lyman series	
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(a) Sulphur (b) Experimental (c) Experi	h m = 0 in
(a) Subject (b) Hydrogen33. What would be pH of mixture of 50 ml of 0.1 M CH_5COOH and 50 ml of 0.05 M NaOH if (DK_3 = 4.74)?40. Which of the following will have highe negative value of e ⁻ gain enthalpy?(1) 9.26(2) 9(1) 9.26(2) 9(3) 4.74(4) 5.7434. 36 g of metal oxide on reduction give 30 g metal. What should be equivalent mass of metal?(1) Cl(1) 36(2) 40(3) 24(4) 2035. Masses of equal volume of CH ₄ and a gas X are in ratio of 1 : 5. What would be vapour density of gas X?(1) D.5(1) 0.5(2) 20(3) 40(4) 8036. What will be volume strength of $\frac{1}{5}$ N H ₂ O ₂ ?(1) 1.12(1) 1.12(2) 2.24(3) 4.48(4) 8.9637. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra?(1) CaCO ₃ \triangle CaO + CO ₂ (1) 1st line of Balmer series(2) 1st line of Lyman series(3) 1st line of Lyman series(3) H ₂ O + CH ₃ COONa \longrightarrow CH ₃ COOH +	
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Out:Solid of incluionation give doing incluit.What should be equivalent mass of metal?(1) 36(2) 40(1) 36(2) 40(3) Linear, linear(3) 24(4) 20(3) Linear, linear35. Masses of equal volume of CH_4 and a gas X are in ratio of 1 : 5. What would be vapour density of gas X?(1) 0.5(1) 0.5(2) 20(3) 40(3) 40(4) 8036. What will be volume strength of $\frac{1}{5}$ N H ₂ O ₂ ?(1) 1.12(1) 1.12(2) 2.24(3) 4.48(4) 8.9637. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra?(1) CaCO ₃ $\xrightarrow{\Delta}$ CaO + CO ₂ (1) 1st line of Balmer series(2) CH ₂ CI-CH ₂ CI $\xrightarrow{2n dugt}{\Delta}$ CH ₂ = CH ₂ +(3) 1st line of Paschen series(3) H ₂ O + CH ₃ COONa \longrightarrow CH ₃ COOH +	SU ₂ ?
(3) 24 (4) 20 (3) 24 (4) 20 (4) Trigonal planar, pyramidal (4) Trigonal planar, pyramidal (5) (1) $PCl_5 \longrightarrow PC\overset{\oplus}{l_4}$ (6) $PCl_5 \longrightarrow PC\overset{\oplus}{l_4}$ (7) $PCl_5 \longrightarrow PC\overset{\oplus}{l_4}$ (8) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (9) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (1) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (3) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (4) $PCl_3 \overset{H_2O}{\longrightarrow} PO_3$ (3) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (4) $PCl_3 \overset{H_2O}{\longrightarrow} POCl_3$ (5) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (6) $PCl_3 \overset{H_2O}{\longrightarrow} PO_3$ (7) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (8) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (9) $PCl_5 \overset{H_2O}{\longrightarrow} POCl_3$ (1) $CaCO_3 \overset{\Delta}{\longrightarrow} CaO + CO_2$ (1) $CaCO_3 \overset{\Delta}{\longrightarrow} CaO + CO_2$ (2) $CH_2CI - CH_2CI \overset{Zn dyst}{\longrightarrow} CH_2 = CH_2 + (3)$ (3) $H_2O + CH_3COONa \longrightarrow CH_3COOH + (3)$	
(1) L^{1} 35. Masses of equal volume of CH_4 and a gas X are in ratio of 1 : 5. What would be vapour density of gas X?42. In which case number of hybrid orbital central atom increases?(1) 0.5(2) 20(3) 40(4) 8036. What will be volume strength of $\frac{1}{5}$ N H ₂ O ₂ ?(1) 1.12(1) 1.12(2) 2.24(3) 4.48(4) 8.9637. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra?(1) $CaCO_3 \longrightarrow CaO + CO_2$ (1) 1 st line of Balmer series(2) $CH_2CI-CH_2CI \xrightarrow{-2n dyst}{\Delta} CH_2 = CH_2 + (3) H_2O + CH_3COONa \longrightarrow CH_3COOH + (3) 1st line of Paschen series$	
in ratio of 1 : 5. What would be vapour density of gas X? (1) 0.5 (2) 20 (3) 40 (4) 80 36. What will be volume strength of $\frac{1}{5}$ N H ₂ O ₂ ? (1) 1.12 (2) 2.24 (3) 4.48 (4) 8.96 37. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra? (1) 1 st line of Balmer series (2) 1 st line of Lyman series (3) 1 st line of Paschen series	
(1) $PCI_5 \longrightarrow PCI_4$ (1) $PCI_5 \longrightarrow PCI_4$ (2) $H_3BO_3 \xrightarrow{H_2O} [B(OH)_{\lambda}]^{\ominus}$ (3) $PCI_5 \xrightarrow{H_2O} POCI_3$ (3) $PCI_5 \xrightarrow{H_2O} POCI_3$ (4) $PCI_3 \xrightarrow{H_2O} H_3PO_3$ (4) $PCI_3 \xrightarrow{H_2O} H_3PO_3$ (4) $PCI_3 \xrightarrow{H_2O} H_3PO_3$ (5) $PCI_5 \xrightarrow{H_2O} POCI_3$ (6) $PCI_3 \xrightarrow{H_2O} H_3PO_3$ (7) $PCI_5 \xrightarrow{H_2O} POCI_3$ (8) $PCI_5 \xrightarrow{H_2O} H_3PO_3$ (9) $PCI_5 \xrightarrow{H_2O} POCI_3$ (1) $CaCO_3 \xrightarrow{\Delta} CaO + CO_2$ (1) $CaCO_3 \xrightarrow{\Delta} CaO + CO_2$ (2) $CH_2CI-CH_2CI \xrightarrow{Zn \ dust} CH_2 = CH_2 + (3) \ H_2O + CH_3COONa \longrightarrow CH_3COOH + (3) \ H_2O + CH_3COONa \longrightarrow CH_3COON + (3) \ H_2O + CH_3COONa \longrightarrow CH_3COON + (3) \ H_3O + (3$	al used by
(3) 40 (4) 80 36. What will be volume strength of $\frac{1}{5}$ N H ₂ O ₂ ? (1) 1.12 (2) 2.24 (3) 4.48 (4) 8.96 37. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra? (1) 1 st line of Balmer series (2) 1 st line of Lyman series (3) 1 st line of Paschen series (3) 1 st line of Paschen series	
(3) 40^{-1} (4) 80^{-1} (4) 80^{-1} (5) 40^{-1} (4) 80^{-1} (6) 10^{-1} (1) 10^{-1} (2) 2.24^{-1} (7) 1.12^{-1} (2) 2.24^{-1} (8) 4.48^{-1} (2) 2.24^{-1} (9) 1.12^{-1} (2) 2.24^{-1} (1) 1.12^{-1} (2) 2.24^{-1} (2) 2.24^{-1} (3) 4.48^{-1} (4) 8.96^{-1} (4) $PCI_3 \xrightarrow{H_2O} POCI_3^{-1}$ (4) $PCI_3 \xrightarrow{H_2O} H_3PO_3^{-1}$ (3) $PCI_5 \xrightarrow{H_2O} POCI_3^{-1}$ (4) $PCI_3 \xrightarrow{H_2O} H_3PO_3^{-1}$ (5) 10^{-1} (1) $CaCO_3 \xrightarrow{\Delta} CaO + CO_2^{-1}$ (1) 1^{-1} line of Balmer series (2) 1^{-1} line of Lyman series (3) 1^{-1} line of Lyman series (3) 1^{-1} line of Paschen series	
36. What will be volume strength of $\frac{1}{5}$ N H ₂ O ₂ ? (1) 1.12 (2) 2.24 (3) 4.48 (4) 8.96 37. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra? (1) 1 st line of Balmer series (2) 1 st line of Lyman series (3) 1 st line of Paschen series	
(1) 1.12 (2) 2.24 (3) 4.48 (4) 8.96 37. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra? (1) 1 st line of Balmer series (2) 1 st line of Lyman series (3) 1 st line of Paschen series	
(3) 4.48 (4) 8.96 reaction? 37. Which of the following will be corresponding to highest wavelength in Hydrogen's atomic spectra? (1) 1 st line of Balmer series (2) 1 st line of Lyman series (3) 1 st line of Paschen series	ortionation
highest wavelength in Hydrogen's atomic spectra? (1) 1 st line of Balmer series (2) 1 st line of Lyman series (3) 1 st line of Paschen series	ortionation
(2) 1 st line of Lyman series (3) $H_2O + CH_3COONa \longrightarrow CH_3COOH +$	
(3) 1^{st} line of Paschen series	$H_2 + ZnCI_2$
(3) 1 st line of Paschen series	H + NaOH
(4) 1^{st} line of Brackett series (4) $H \longrightarrow C = 0 + 0 H \longrightarrow C H_3 - 0 H + C H_3$	CH₃COO



Sample Test Paper

44.	If molecular mass of Na_2HPO_4 is M. What will be	47. Lithium is a substance with lowest reduction	on
	equivalent mass of Na ₂ HPO ₄ in given reaction?	potential because	
	$Na_2HPO_4 + NaOH \rightarrow Na_3PO_4 + H_2O$	(1) This is above hydrogen in reactivity series(2) Lowest ionisation energy	
	М	(3) Highest heat of hydration	
	(1) $\frac{M}{3}$ (2) $\frac{M}{2}$	(4) All of these	
	· _	48. Which of the following will form only one produ	ıct
	(3) 2M (4) $\frac{M}{4}$	on mono chlorination?	
		(1) Neopentane(2) Isopentane(3) Isobutane(4) n-butane	
45.	Which of the following is a incorrect match of name of enthalpy of reaction?		be
	Reaction Enthalpy of Process	(1) $\overset{\oplus}{C}H_2 - CH = CH - O - CH_3$	
	(1) $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$ Heat of Combustion	(2) $CH_2 = CH - \overset{\oplus}{C}H - O - CH_3$	
	(2) $C_{diamond} + O_2 \rightarrow CO_2 + 2H_2O$ Heat of formation	(3) $CH_2 = CH - CH = \overset{\oplus}{O} - CH_3$	
	(3) H–H \longrightarrow 2H Bond energy	(4) All are equally stable	
	(4) NaOH+ $\frac{1}{2}$ H ₂ SO ₄ $\rightarrow \frac{1}{2}$ Na ₂ SO ₄ +H ₂ O Heat of Neutralisation	50. Which of the following can not be prepared fro Kolbe's electrolysis?	'n
46.	Which of the following has biggest size?		
	(1) Li ⁺ _(aq) (2) Na ⁺ _(aq)		
	(3) $K^{+}_{(aq)}$ (4) $Rb^{+}_{(aq)}$		
	BIOL	LOGY	
51	Family tree of organisms on the basis of	53. Backbone of peptidoglycan in bacterial cell wall	is
01.	taximetrics is called	made of alternating units of	.0
	(1) Cladogram	(1) NAM and tetrapeptide chain	
	(2) Cryptogram	(2) NAM and NAG	
	(3) Dendrogram		
	(4) Monograph	(3) NAG and amino acid	
52.	According to three kingdom classification, achlorophyllous thallophytes are included in		
	(1) Protista	54. Which one of the following types of bacteri conjugation leads to sexduction?	al
	(2) Plantae		
	(3) Fungi	(1) Hfr × F ⁻ (2) Hfr × F ⁺	
	(4) Metaphyta	(3) Hfr × Hfr (4) $F^+ \times F^-$	

Space For Rough Work

Sample Test Paper

XII-cum Medical Entrance Exams. 2013

55.	Holophytic protistans ex and primordial utricle ar	xhibiting large sap vacuole e			
	(1) <i>Noctiluca</i> and <i>Thios</i>		((1) Ferns	(2) Moss
	(2) <i>Melosira</i> and <i>Physa</i>		((3) Algae	(4) Angiosperms
	(3) <i>Ciliates</i> and <i>Sarcoc</i>		65. I	Decision of cell division	occurs during
	(4) Navicula and Melos		((1) G ₁ -phase	(2) S-phase
56.	Sexual structure of pign		((3) G ₂ -phase	(4) M-phase
	(1) Antheridia and oogo		66. I	Phragmoplast is associa	ated with
	(2) Spermatangia and c			(1) Karyokinesis	
	(3) Ascogonia and anth			(2) Cytokinesis	
	(4) Archegonia and ant				
57.	Special structure in the	thallus of lichen which is		(3) Cell elongation	
	analogous to the stoma	ta of higher plants is	((4) More than one option	on is correct
	(1) Cyphellae	(2) Cephalodia	67. I	Find correct match	
	(3) Isidia	(4) Soredia		Column I	Column II
58.	Aposporously formed g	ametophyte in <i>Funaria</i> will		a. PA	(i) Fabaceae
	(1) Haploid	(2) Diploid	1	b. $\widehat{C_{(5)}A_{(5)}}$	(ii) Solanaceae
	(3) Triploid	(4) Polyploid		c. C ₁₊₂₊₍₂₎ A ₍₉₎₊₁	(iii) Liliaceae
59.	Actinostele is related to)			
	(1) Medullated stele	(2) Eustele		d. $\vec{C}_{(5)}\vec{A}_5$	(iv) Asteraceae
	(3) Dictyostele	(4) Nonmedullated stele	((1) a(iii), b(iv), c(ii), d(i)	(2) a(ii), b(iii), c(i), d(iv)
60.	Megasporophyll of gym	nosperm is equivalent to		(3) a(i), b(iv), c(iii), d(ii)	(4) a(iii), b(iv), c(i), d(ii)
	(1) Ovule	(2) Carpel			rised by fleshy receptacle
	(3) Endosperm	(4) Embryosac		and trimorphic flowers is	
61.	Cell organelle enriched	with oxidative enzymes is		(1) Capitulum	(2) Hypanthodium
	(1) Golgi bodies	(2) Lysosome		(3) Cincinnus	(4) Cyathium
	(3) Mitochondria	(4) ER		. ,	
62.	Which one of the followi gluconeogenesis in ger	ng organelles is involved in minating fatty seeds?		meristematic tissue	ement with respect to
	(1) Peroxisome	(2) Mitochondria	(. ,	etric without intercellular
	(3) Sphaerosomes	(4) Glyoxysomes		spaces	
63.	Isobrachial chromosome	es are		(2) Absence of ergastic	c substances
	(1) Acrocentric	(2) Telocentric	((3) Cells have primary	wall only
	(3) Sub-metacentric	(4) Metacentric	((4) Plastids are presen	t

Space For Rough Work

(3) Uricose gland

Space For Rough Work

(4) Prothoracic gland

(3) Aspartic acid

(4) Glycine

70.	Light coloured and physiologically active element of xylem in matured woody dicots is			Which of the following i the hindlimb of frog?	is correct digital formula of		
	(1) Tracheids			(1) 0, 2, 2, 3, 3	(2) 0, 2, 3, 4, 3		
	(2) Primary xylem vesse	els		(3) 2, 2, 3, 4, 3	(4) 2, 2, 2, 3, 4		
	(3) Duramen		79.	Which larval stage of A	scaris is infective?		
	(4) Alburnum			(1) First stage larva	(2) Second stage larva		
71.	What is true for plasmol	ysed cells?		(3) Third stage larva	(4) Fifth stage larva		
	(1) DPD = OP + TP	(2) DPD = OP – TP	80.	51			
	(3) OP = TP	(4) $\Psi_{s} = \Psi_{p}$		enzyme?			
72.		lution with macronutrients,		(1) Entodinium caudatu			
	micronutrients and chelat	ing agent was prepared by		(2) Entamoeba histolyt(3) Elphidium	ICA		
	(1) Knop	(2) Sachs					
	(3) Arnon and Stout	(4) Arnon and Hoagland	81.	(4) Trypanosoma cruzi	ving is not true about		
73.		plecule in sorghum plant,	01.	chondrichthyes?	ang is not true about		
	total number of assimilat			A. Swim bladder is ab	sent		
	(1) 2 NADPH ₂ and 3 AT			B. Spiral valve occurs	in the intestine		
	(2) 2 NADPH ₂ and 5 AT			C. Mouth is ventral			
	(3) 12 NADPH ₂ and 18			D. Strictly oviparous			
	(4) 12 NADPH ₂ and 30			(1) A, B and C	(2) A and B		
74.	First decarboxylation in substrate level?	FCA cycle occurs at which		(3) A and C	(4) D only		
	(1) Pyruvate	(2) Oxaloacetate	82.	Which of the following is	s peptide bond?		
	(3) Oxalosuccinate	(4) α-ketoglutarate		(1) – CO.NH –	(2) – C.O.C –		
75.		in tomato is checked by			O		
	application of			(3) – C.N.C –	(4) $-C.O.C$ –		
	(1) NAA	(2) IBA	83.	Select odd one			
	(3) NAAM	(4) TIBA		(1) Glucose	(2) Galactose		
76.		common ancestral larval		(3) Mannose	(4) Fructose		
	form for echinoderms and hemichordates?		84.	Which one of the follow acid?	ing is not an essential fatty		
	(1) Dipleura larva	(2) Tornaria larva		(1) Oleic acid	(2) Linoleic acid		
	(3) Glochidium larva	(4) Ammocoete larva		(3) Linolenic acid	(4) Arachidonic acid		
77.	Ecdysone is moulting hormone in insects, which is secreted by		85.		s the simplest amino acid?		
			00.	(1) Tryptophan	(2) Proline		
	(1) Mehlis glands						

Sample Test Paper

Sample Test Paper

XII-cum Medical Entrance Exams. 2013

86.	Which of the following enzyme has maximum turnover number?(1) Catalase(2) Urease(3) Carbonic anhydrase			Gull's disease is the result of					
				(1) Hyposecretion of thyroid gland(2) Hypersecretion of thyroid gland					
				(4) Hyposecretion of adrenal gland					
				(4) Lactate dehydrogenase			Which one of the following valves present betwee		
87.	Which one of the following is the strongest cartilage?			left atrium and left ventricle? (1) Tricuspid valve (2) Mitral valve					
	(1) Hyaline cartilage			 Tricuspid valve Semiluner valve 	()				
	(1) Tryaine cartilage(2) Yellow elastic cartilage			(3) Semilunar valve (4) Valve of Hous					
	(2) Venow elastic cartilage(3) White fibrous cartilage		95.	Which one of the following are involved in regulatio of the kidney function?					
	(4) Calcified cartilage			(1) ADH	(2)	RAAS			
88.	Which one is the major component of plasma protein?			(3) ANF	(4)	All of these			
				Which one is highly vascularised meninx?					
	(1) Albumin	(2) Globulin		(1) Duramater	(2)	Aarchnoidmater			
	(3) Prothrombin	(4) Fibrinogen		(3) Piamater	(4)	All of these			
39.	Which one is not absent in axon?		97.	Which one is special feature for mammalian brain					
	(1) Golgi complex	(2) Nissl bodies		(1) Presence of optic lobe					
	(3) Mitochondria	(4) ER		(2) Presence of hypothalamus					
90.	Monocondylic skull is found in			(3) Presence of corpus callosum					
	A. Frog	B. Reptiles		(4) Presence of hollow olfactory lobes					
	C. Birds	D. Mammals	98.	Select the longest cranial nerve supplying t thoracic as well as abdominal parts					
	(1) A, B and C	(2) A and D		(1) Trigeminal nerve		Pathetic nerve			
	(3) B and C	(4) B, C and D		(3) Vagus nerve	. ,	Facial nerve			
91.	Brunner's glands open into which part of alimentary canal?			Organ of Corti rests up	. ,				
				(1) Reissner's membrane					
	(1) Stomach			(2) Basilar membrane					
	(2) Duodenum			(3) Choroid layer					
	(3) Ileum			(4) Membranous labyrinth					
	(4) Proximal part of colon			. Which of the following endocrine gland is ector					
92.	Which of the following is equal to FRC?			mesodermal origin?					
	(1) IRV + TV	(2) ERV + VC		(1) Pituitary gland	. ,	Thyroid gland			
	(3) ERV + RV	(4) ERV + IRV + RV		(3) Adrenal gland	(4)	Gonads			





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Admission-cum-Scholarship Test

(Sample Paper)

(For XII-cum-Medical Entrance Exams. 2013)

Answers

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