Christ College of Engineering
Model Question Paper for Admission Test

In section 7, the student will have to answer only one part, corresponding to the branch opted.
* Each correct answer will fetch 2 marks, and each wrong answer will reduce 0.5 marks
* The exam will be in 100 marks

Sl. No	Question with options	Subt section	T/P	
Section 1: PHYSICS				
1	A car moves with uniform acceleration of $2m/s^2$ starting from rest. What is its velocity after 5 seconds? A) 2 m/s B) 5 m/s C) 10 m/s D) 20 m/s		P	
2	A block of mass 2 kg is pulled on a horizontal surface by a force of 10 N. If the frictional force is 2 N, what is the acceleration of the block? A) $4m/s^2$ B)$5m/s^2$ C) $6m/s^2$ D) $8m/s^2$		P	
3	When a ray of light passes from air into glass, it A) bends away from the normal B) bends towards the normal C) does not bend D) gets reflected		T	
4	A thin conducting ring of radius R and resistance r is placed in a uniform magnetic field perpendicular to its plane. The magnetic field increases at a rate of $\frac{dB}{dt}$. What is the magnitude of the current induced in the ring?		T	

	A) $\frac{\Pi R^2}{r} \cdot \frac{dB}{dt}$ B) $\frac{R}{r} \cdot \frac{dB}{dt}$ C) $\frac{2\Pi R}{r} \cdot \frac{dB}{dt}$ D) $\frac{\Pi R^2 r}{\frac{dB}{dt}}$			
5	Two resistors R_1=2Ω and R_2=3Ω are connected in parallel and the combination is connected in series with a 4Ω resistor to a 12 V battery. What is the current flowing through the 4Ω resistor? A) 2 A B) 3 A C) 4 A D) 6 A		P	
6	Which of the following is the SI unit of energy? A) Newton B) Joule C) Watt D) Kilogram		T	
7	A simple pendulum of length 1 meter oscillates with a small amplitude. If the acceleration due to gravity is $9.8 m/s^2$, what is the time period of the pendulum? A) 1 second B) 2 seconds C) 3 seconds D) 4 seconds		P	
8	Which physical quantity remains constant during the uniform circular motion of an object? A) Speed B) Velocity C) Acceleration D) Momentum		T	
9	According to the first law of thermodynamics, when a gas expands adiabatically, the work done by the gas is: A) Equal to the heat absorbed B) Equal to the decrease in internal energy		T	

	C) Zero D) Equal to the increase in internal energy			
10	The unit of magnetic field intensity is: A) Tesla B) Weber C) Ampere-turn per meter D) Henry		T	
Section 2: CHEMISTRY				
11	The number of molecules present in 4.4 g of CO_2 is: (Atomic masses: C = 12, O = 16) a) 3.01×10^{22} b) 6.02×10^{22} c) 1.20×10^{23} d) 3.01×10^{23}		P	
12	Which of the following is a correct example of an acidic buffer? (a) $CH_3COONa + NaOH$ (b) $NH_4Cl + NH_4OH$ (c) $CH_3COOH + CH_3COONa$ (d) $HCl + NaCl$		T	
13	In a galvanic cell, electrons flow: (a) From anode to cathode through the external circuit (b) From cathode to anode through the external circuit (c) From electrolyte to electrode (d) From cathode to electrolyte		T	
14	Rusting of iron is an example of: a) Dry corrosion b) Electrochemical corrosion c) Biological corrosion d) Galvanization		T	
15	The α-helix structure of proteins is stabilized mainly by: (a) Disulfide bonds (b) Ionic interactions (c) Peptide linkages only (d) Hydrogen bonds		T	
Section 3: MATHEMATICS				

16	If z = 3 + 4i, the value of |z| is: A) 3 B) 4 C) 5 D) 7		P	
17	The number of ways to arrange letters of the word 'ENGINEER' is: A) 40320 B) 3360 C) 1680 D) 840		P	
18	Slope of line 3x – 4y + 7 = 0 is: A) 3/4 B) –3/4 C) 4/3 D) –4/3		P	
19	For parabola $y^2 = 8x$, the length of the latus rectum is: A) 2 B) 4 C) 6 D) 8		P	
20	The probability of getting a sum 7 on two dice is: A) 1/6 B) 1/12 C) 1/36 D) 1/18		P	
21	Which of the following is a property of continuous functions? A) They have jumps B) No breaks or holes C) Always differentiable D) Always constant		T	
22	A bijective function is: A) One-one only B) Onto only		T	

	C) Both one-one and onto D) Neither			
23	Which is true about hyperbola? A) Sum of distances constant B) Product of distances constant C) Difference of distances constant D) Radius constant		T	
24	The slope of the line passing through points (2, 3) and (6, 15) is: A. 2 B. 3 C. 4 D. 5		P	
25	If limit $x \to 0$ $(\sin 4x)/x$ = ? A) 0 B) 1 C) 2 D) 4		P	
26	The 20th term of an arithmetic progression with first term 8 and common difference 3 is: A. 62 B. 65 C. 70 D. 68		P	
27	If f(x)= $\sqrt{x^2 - 4}$, the domain of f(x) is: A. $(-\infty,-2) \cup (2,\infty)$ B. $[-2,2]$ C. $(-2,2)$ D. R		P	
28	The function f(x)= $\frac{1}{\sqrt{4-x^2}}$ is: A. Increasing in $(-2,2)$		P	

	B. Decreasing in (−2,2) C. Neither increasing nor decreasing D. Increasing in (0,2) and decreasing in (–2,0)			
29	Mean of numbers 2, 4, 6, 8 is: A) 4 B) 5 C) 6 D) 8		P	
30	$\int 3x^2\,dx =$ A) $x^3 + C$ B) $x^3/3 + C$ C) $x^3/2 + C$ D) $x + C$		P	
Section 4: SITUATIONAL APTITUDE				
31	A new team member in the office looks confused and left out. What will you do? a) Ignore them b) Assign them more tasks c) Offer help and guidance d) Tell them to figure it out themselves		P	
32	You are supervising an exam. You see a student trying to cheat. Your action? a) Ignore to avoid confrontation b) Warn the student quietly and monitor c) Cancel the student's paper without reporting d) Shout at the student publicly		p	
33	You notice your team is demotivated. What is your best approach? a) Increase workload b) Motivate them with appreciation and support c) Avoid the issue d) Tell them to work harder		P	
34	You make a major mistake that affects your team. What should you do? a) Hide it b) Blame others c) Inform the team and help fix it		P	

	d) Quit the job			
35	A client is upset and shouting. What is your best response? a) Shout back b) Stay calm and listen c) Disconnect the call d) Ignore the client		P	
Section 5: APTITUDE				
36	If CAT = 3120, DOG = 4157, then BAT = a) 2120 b) 2130 c) 2100 d) 3140		P	
37	Mirror image of LEFT will show a) LEFT b) T E F L c) F E L T d) T F E L		P	
38	A is the brother of B. B's sister is C. Relation of A & C? a) Cousin b) Brother c) Sister d) Aunt		P	
39	If all roses are flowers, some flowers are red. Conclusion: a)All roses are red b) Some flowers are roses c) All flowers are roses d) None		P	
40	Complete the pattern: 2, 6, 12, 20, 30, __ a) 42 b) 44 c) 40 d) 48		P	

Section 6: ENGLISH

Reading Passage

For years, educators and psychologists have debated whether curiosity can be taught or whether it is an innate trait that gradually fades as children grow older. Recent studies suggest a more optimistic view: curiosity is not fixed, but shaped by the environments we create. Classrooms that encourage questioning, reward creative risks, and allow students to explore

unfamiliar ideas tend to produce learners who are more self-driven and better prepared to adapt to uncertainty.

However, fostering curiosity is not as simple as asking students to "think outside the box." Many learners hesitate to explore new ideas because they fear being wrong or appearing uninformed in front of their peers. This hesitation often grows as academic competition increases. To counter this, researchers recommend shifting the focus from having the "right" answer to understanding the reasoning behind an answer. When students realise that mistakes are part of the learning process, they become more willing to attempt challenging tasks.

Technology has also reshaped how curiosity develops. With information instantly available, students often prioritise speed over reflection. While quick access can support learning, it may also reduce the patience required for deeper inquiry. Educators are now exploring ways to balance digital efficiency with thoughtful engagement—encouraging students to question not only what the information is, but why it matters and how it connects to the world beyond the classroom.

Ultimately, curiosity thrives wherever learners feel safe to explore, supported when they struggle, and trusted to follow their own intellectual pathways. The challenge lies in designing learning spaces that protect this instinct, rather than unintentionally diminishing it.

41	1. What is the main idea of the passage? A. Curiosity is entirely innate and cannot be taught. B. Technology has eliminated the need for curiosity in learning. C. Curiosity can be nurtured through supportive learning environments. D. Academic competition is the only factor affecting curiosity.		T	
42	2. According to the passage, why do some students hesitate to explore new ideas? A. They lack access to technology. B. They fear being wrong or judged by peers. C. They prefer memorisation over understanding. D. They are discouraged by teachers.		T	

43	3. What do researchers suggest is important for building curiosity? A. Prioritising speed in completing tasks. B. Focusing on the process rather than just the correct answer. C. Reducing the number of questions students ask. D. Limiting the use of creative activities.		T	
44	4. Which word in the passage is closest in meaning to "hesitation"? A. Instinct B. Reasoning C. Uncertainty D. Competition		T	
45	5. What is the author's attitude toward technology in learning? A. It fully replaces reflective thinking. B. It is harmful and should be avoided. C. It offers benefits but requires thoughtful use. D. It has no impact on student curiosity.		T	
Section 7A: SUBJECT SPECIFIC: CIVIL				
1	Which type of foundation is commonly used for small residential buildings? A. Pile foundation B. Raft foundation C. Isolated footing D. Well foundation			
2	Which unit is used to measure the load acting on a structure? A. Pascal B. Newton C. Joule D. Watt			

3	Which of the following is the main ingredient responsible for the strength of cement? A. Gypsum B. Clay C. Lime (Calcium Oxide) D. Sand			
4	What is the primary purpose of reinforcement in reinforced concrete? A. To reduce the weight of concrete B. To increase colour of concrete C. To resist compression forces D. To resist tensile forces			
5	Which one of the following is NOT a construction material? A. Brick B. Steel C. Cement D. Rubber			
Section 7B: SUBJECT SPECIFIC: CSE				
1	Which of the following is a primary memory? a) Hard Disk b) RAM c) Pen Drive d) CD-ROM		T	
2	Convert the binary number 10110_2 to decimal a) 20 b) 22 c) 16 d) 18		P	
3	What is the main function of an operating system? a) To design websites b) To convert binary to decimal c) To manage hardware and software resources		T	

	d) To store files permanently			
4	Which of the following best describes a LAN? A. Network spread across countries B. Network within a small geographic area C. Network covering a city D. Network without wires		T	
5	What will be the output of this code? x = 3 y = 4 z = x * y print(z) a) 3 b) 4 c) 7 d) 12		P	
Section 7C: SUBJECT SPECIFIC: ELECTRICAL				
1	When two resistors 5Ω and 10Ω connected in parallel the effective resistance will be, A.15Ω B. 7.5Ω C. 3.33Ω D. 2Ω		P	
2	Which is commonly used in household power supply? A. DC B. AC C. Both		T	

	D. None			
3	Which device measures voltage, current, and resistance? A. Oscilloscope B. Multimeter C. Transformer D. Capacitor		T	
4	A circuit has a resistance of 10 Ω and a current of 2 A. What is the voltage across it? A. 5 V B. 10 V C. 20 V D. 200 V		P	
5	Which of the following is a correct unit for power? A. Ohm B. Watt C. Coulomb D. Farad		T	
Section 7D: SUBJECT SPECIFIC:ELECTRONICS				
1	What does the “L” in LASER stand for? a) Level b) Light c) Line d) Low		T	
2	Which device uses radio waves to detect objects? a) LED		T	

	b) USB c) RADAR d) LCD			
3	Which component emits light when current passes through it? a) RAM b) LED c) Wi-Fi d) Diode		T	
4	Silicon is an example of a: a) Conductor b) Insulator c) Semiconductor d) Superconductor		T	
5	The transistor was invented by: a) Newton b) Ohm c) Bardeen, Brattain, Shockley d) Jack Kilby		T	
Section 7E: SUBJECT SPECIFIC: MECHANICAL				
1	Which SI unit is used to measure force? A) Joule B) Newton C) Pascal	7E.1	T	

	D) Watt			
2	Seat belts in vehicles work on the principle of: A) Momentum B) Inertia C) Power D) Energy	7E.2	T	
3	Torque is defined as: A) Force × distance B) Force × perpendicular distance C) Energy × time D) Power × time	7E.3	T	
4	Young’s modulus is the ratio of: A) Strain/Stress B) Stress/Strain C) Force/Area D) Load/Length	7E.4	T	
5	Which machine is commonly used to lift water? A) Turbine B) Pump C) Generator D) Compressor	7E.5	T	