

SIR SYED CASE INSTITUTE OF TECHNOLOGY, ISLAMABAD



ADMISSION TEST PATTERN AND FEW SAMPLE QUESTIONS

FALL 2020 – BS ELECTRICAL ENGINEERING APPLICANTS



Max. Marks: 400

Time Allowed: 2 Hours

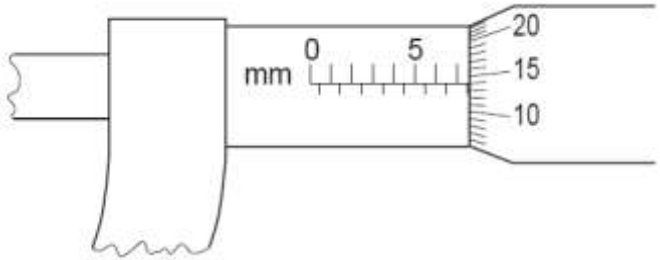
INSTRUCTIONS

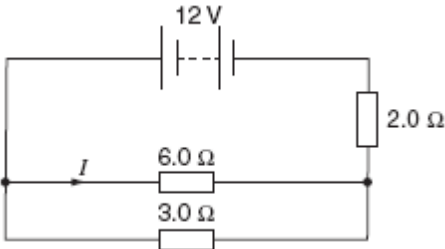
Each Correct Answer Carries 4 Marks;

DO NOT TURN THIS PAGE UNTILL INSTRUCTED TO DO
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- Switch off your mobile phone.
- Use a ball point or pen. Do not use a pencil.
- Write your name; roll number and answer booklet number on your answer sheet.
- There are 100 questions in this admission test and for each question, four possible choices are given.
- Choose the most appropriate answer to the given question by filling the appropriate circle (only ONE circle) on the answer sheet.
- Questions with more than one circles filled, will not be graded.
- **Don't write anything on the booklet. All answers must be given on the answer sheet provided.**
- Anyone found using unfair means will be immediately disqualified from the test
- Use of calculator is not allowed

SAMPLE QUESTIONS FOR THE PHYSICS SECTION

<p>Q 1.</p>	<p>The diagram shows a micrometer scale of:</p> <p>A. 7.14 mm B. 7.16 mm C. 7.14 mm D. 7.64 mm E. None of these</p> 
<p>Q 2.</p>	<p>When a body is accelerating, what must change?</p> <p>A. The force acting on the body B. The mass of the body C. The velocity of the body D. The speed of the body E. None of the above</p>
<p>Q 3.</p>	<p>Some car driver takes a total of two hours to cover 75 km. She takes a tea break for half an hour and wastes a quarter hour stuck in a stationary traffic jam.</p> <p>What must be her average travel speed during the remaining time if she wants to finish the journey in two hours?</p> <p>A. 50 km/h B. 75 km/h C. 60 km/h D. 38 km/h E. None of the above</p>
<p>Q 4.</p>	<p>A mass would accelerate uniformly when the net (resultant) force acting on it</p> <p>A. is zero. B. is constant but not zero. C. increases uniformly with respect to time. D. is proportional to the displacement from a fixed point. E. is none of the above.</p>
<p>Q 5.</p>	<p>A molecule that is travelling horizontally has mass m and velocity v. It hits a vertical wall at right angles to the wall. The molecule then rebounds horizontally with the same speed. What is the change in momentum?</p> <p>A. zero B. mv C. $-mv$ D. $-2mv$ E. None of the above</p>
<p>Q 6.</p>	<p>A mass is raised vertically. In time t, the increase in its gravitational potential energy is E_p and the increase in its kinetic energy is E_k.</p>

	<p>What is the average power input to the mass?</p> <p>A. $(E_p - E_k)t$ B. $(E_p + E_k)t$ C. $(E_p - E_k)/t$ D. $(E_p + E_k)/t$ E. None of the above</p>
Q 7.	<p>What is the Young modulus of a metal?</p> <p>A. extension/ force B. force/ extension C. strain/ stress D. stress/ strain E. None of the above</p>
Q 8.	<p>Following diagram shows a circuit. The battery has negligible internal resistance:</p> <p>What is the value of the current I ?</p> <p>A. 1.0 A B. 1.6 A C. 2.0 A D. 3.0 A E. None of the above</p> 

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Total Questions for Physics section shall be 40

SAMPLE QUESTIONS FOR THE MATHEMATICS SECTION

Q 1.	Which of the following equation has a root in common with $x^2 - 6x + 5 = 0$ A. $x^2 + 1 = 0$ B. $x^2 - x - 2 = 0$ C. $2x^2 - 2 = 0$ D. $x^2 - 4 = 0$ E. None of the above	
Q 2.	What is 45 percent of $\frac{7}{12}$ of 240 A. 63 B. 90 C. 108 D. 140 E. None of the above	
Q 3.	If $\frac{(4-x)}{2+x} = x$ what is value of $x^2 + 3x - 4$ A. -4 B. 1 C. -1 D. 0 E. None of the above	
Q 4.	If $\frac{1.5}{0.2-x} = 5$ then $x =$ A. -3.7 B. 0.1 C. 0.3 D. 0.5 E. None of above	
Q 5.	If $x = -1$ then $\frac{x^4 - x^3 + x^2}{x+1} =$ A. undefined B. 0 C. $\frac{1}{2}$ D. $-\frac{1}{2}$ E. None of above	
Q 6.	$F(x) = 2 + \sqrt{x-1}$ is defined for A. all real numbers B. $x \in [1, +\infty)$ C. $x \in (1, +\infty)$ D. $x \in (-\infty, -1)$ E. None of above	
Q 7.	The function $3x^3 + 2x^2 + x + 2$ is derivative of A. $(x+5)(x^2+7)$ B. $\frac{3}{4}x^4 + \frac{2}{3}x^3 + \frac{1}{2}x^2 + 2x + 5$ C. $\frac{3}{4}x^4 + \frac{2}{3}x^3 - \frac{1}{2}x^2 + 5$ D. $\frac{3}{4}x^4 - \frac{2}{3}x^3 - \frac{1}{2}x^2 - 2x - 5$ E. None of above	
Q 8.	Derivative of $f(x) = \cos x$ is undefined at	

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| A. $x = 0$ |
| B. $x = \pi$ |
| C. $x = \frac{\pi}{2}$ |
| D. $x = 1$ |
| E. None of above |

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Total Questions for the Maths section shall be 40

SAMPLE QUESTIONS FOR THE ENGLISH SECTION

Note: Choose the correct answer

Q 1.	The chief organizer was angry because his assistant _____ the children in the auditorium A. Has allowed B. Allowed C. Allows D. Had allowed E. None of the above	
Q 2.	The counselor decided _____ the application A. To accept B. Accepting C. Accepts D. To accepts E. None of the above	
Q 3.	They are _____ work peacefully A. Accustomed with B. Accustomed by C. Accustomed of D. Accustomed to E. None of the above	

Note: Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentence are five words or sets of words labeled A through E. Choose the word or set of words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

Q 4.	We lost confidence in him because he never _____ the grandiose promises he had made A. Forgot about B. Reneged on C. Tired of D. Delivered on E. None of the above	
Q 5.	New concerns about growing religious tension in northern India were- _____ this week after at least fifty people were killed and hundreds were injured or arrested in rioting between Hindus and Muslims A. Lessened B. Invalidated C. Restrained D. Fueled E. None of the above	

Note: For the following problems, choose the lettered pair of words whose relationship is most like the relationship expressed in the given linked pair in capitals.

Q 6.	Range : Mountains A. Atlas : map B. String : beads C. Novel: short stories D. Sea :Rivers E. None of the above	
Q 7.	Buffoon : Dignity A. Braggart : modesty B. Blackguard : strength C. Laughingstock : ridicule D. Imposter : identification E. None of the above	
Q 8.	Citadel : Defense A. Chapel : refreshment B. Warehouse : storage C. Marina : contemplation D. Rampart : supervision E. None of the above	

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Total Questions for the English section shall be 20

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