

Institute of Energy and Environmental Engineering
Faculty of Electrical, Energy and Environmental Engineering
Quaid-i-Azam Campus, University of the Punjab, Lahore

General Guidelines for Entry Test 2022

1. The composition of the entry test will be as follows.

Section	Weightage (%)
Verbal Ability (Includes grammar and spellings, vocabulary, word analogy, reading comprehension)	40
Quantitative Ability (Includes Arithmetic, algebra, data analysis, geometry)	30
Subject based Questions (Includes 1. Renewable Energy Sources including solar, wind, biomass, hydel etc. 2. Fossil fuels 3. World and regional energy scenario 4. Energy crisis of Pakistan 5. Environmental implications of energy generation 6. Stoichiometric calculations)	30
Total	100

Note: Further breakdown of the weightage for each section is provided at the end.

2. The test duration will be 2 hours.
3. The use of calculators/mobile phones/smart phones, etc. is prohibited.
4. There is no negative marking.
5. The use of lead pencils/ink removers etc. are not allowed.
6. A separate sheet will be provided with answer sheets for rough work. No markings on question and answer sheets are allowed. Question sheet must be returned along with answer sheets.
7. It is mandatory to mention name and registration/roll no. on answer sheet, otherwise, sheet will not be considered for marking/evaluation.

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M.Sc. (Engg.) Energy & Environmental Engineering

SPECIMEN ENTRY TEST

Time Allowed: 2 Hours

Marks: 100

Name of Student: _____

Roll No. _____

Note: Attempt all questions.

VERBAL ABILITY

Select one of the most appropriate choices given against each question.

1. Ali is _____ for the president of student society this year.
 - a. run
 - b. running
 - c. ran
2. Which of these statements is false?
 - a. The subject should usually follow the verb.
 - b. The object usually comes after the verb.
 - c. When there is an indirect object and a direct object, the indirect precedes the direct.
 - d. When the adjective is used attributively it comes before the noun which it qualifies.
3. They continued to work in the field _____.
 - d. Even though it rained heavily
 - e. Even though there is heavy rain
 - f. In spite the heavy rains
 - g. Although heavily rains
4. Select antonym of “attract”
 - a. Progress
 - b. Repel
 - c. Shy
 - d. Lousy
5. Select synonym of “excel”
 - a. Progress

- b. Move
- c. Slip
- d. Word

QUANTITATIVE ABILITY

Select one of the most appropriate choices given against each question.

- 1 Question: If $2x + 5y = 18$ and $x = 4$ then what is the value of y ?
 - a) 2
 - b) 3
 - c) 4
 - d) 5
- 2 Question: The value of $x^2 + 5x + 6$ at $x = 2$ is?
 - a) 2
 - b) 20
 - c) 40
 - d) 10
 - e) 15
- 3 Question: If 8 is 4 percent of k , then k is 4 percent of:
 - a) 5000
 - b) 4000
 - c) 800
 - d) 80
- 4 Question: If $a=3$, then what is the value of $(a^2)^3 - a$;
 - a) 240
 - b) 243
 - c) 726
 - d) 257

SUBJECT BASED QUESTIONS

Select one of the most appropriate choices given against each question.

1. During combustion coal reacts with_____.

a. Nitrogen	b. Oxygen	c. Moisture
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2. Which one of the followings is a fossil fuel?

a. Wind	b. Coal	c. Nuclear
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3. Coals are _____ to ignite than furnace oil.

a. Easier	b. Harder	c. Similar
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4. When burned, biomass does release _____, a greenhouse gas:

a. H ₂ S	b. CO ₂	c. CH ₄
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5. Methane has _____ odor.

a. Pungent	b. No	c. Sweet
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6. British Thermal Unit is measurement of;
- a. Volume b. Heat Content c. Mass
7. Boiling point of Water is;
- a. 32°F b. 100°F c. 212°F
8. Percentage of Oxygen in dry air by volume is _____.
- a. 20.95% b. 21.95% c. 22.95%

Resource/Helping Material for Test Preparation

For the preparation of verbal and quantitate sections, books available in market for general ability tests/examination (GAT) can be consulted. For subject based questions, candidates are encouraged consult books on the topic given in the test syllabus.

Details of sub-topics and further breakdown of weightage

Section	Section	Weightage (%)
Verbal Ability	Grammar and Spelling (Missing words, Grammar or spelling errors, Antonyms, Synonyms, Word analogy)	30
	Reading Comprehension	10
	Sub-Total	40
Quantitative Ability	Arithmetic (properties and types of integers, such as divisibility, factorization, prime numbers, remainders and odd and even integers; arithmetic operations, exponents and roots; and concepts such as estimation, percent, ratio, rate, absolute value, the number line, decimal representation and sequences of numbers)	9
	Algebra (operations with exponents; factoring and simplifying algebraic expressions; relations, functions, equations and inequalities; solving linear and quadratic equations and inequalities; solving simultaneous equations and inequalities; setting up equations to solve word problems; and coordinate geometry, including graphs of functions, equations and inequalities, intercepts and slopes of lines)	8
	Data Analysis (basic descriptive statistics, such as mean, median, mode, range, standard deviation, interquartile range, quartiles and percentiles; interpretation of data in tables and graphs, such as line graphs, bar graphs, circle graphs, boxplots, scatterplots and	9

	frequency distributions; elementary probability, such as probabilities of compound events and independent events; conditional probability; random variables and probability distributions, including normal distributions; and counting methods, such as combinations)	
	Geometry (parallel and perpendicular lines, circles, triangles — including isosceles, equilateral and 30°-60°-90° triangles — quadrilaterals, other polygons, congruent and similar figures, three-dimensional figures, area, perimeter, volume, the Pythagorean theorem and angle measurement in degrees)	4
	Sub-Total	30
Subject based Questions	Includes <ol style="list-style-type: none"> 1. Renewable Energy Sources including solar, wind, biomass, hydel etc. 2. Fossil fuels 3. World and regional energy scenario 4. Energy crisis of Pakistan 5. Environmental implications of energy generation 6. Stoichiometric calculations 	30
Total		100

- For details about admission rules and eligibility criteria, please visit <http://pu.edu.pk/dpcc/rules.htm>