# Pak-Austria Fachhochschule: Institute of Applied Sciences & Technology Mang, Haripur, Khyber Pakhtunkhwa

| Test 1 | Test 2 | Test 3 |
|---|---|---|
| 1. Test duration is 2 hours.<br>2. Test consists of 100 MCQs.<br>3. Test consists of 3 sections.<br>&bull; English: 20%<br>&bull; Biology: 40%<br>&bull; Chemistry: 40% | 1. Test duration is 2 hours.<br>2. Test consists of 100 MCQs.<br>3. Test consists of 3 sections.<br>&bull; English: 20%<br>&bull; Math: 40%<br>&bull; Physics: 40% | 1. Test duration is 2 hours.<br>2. Test consists of 100 MCQs.<br>3. Test consists of 3 sections.<br>&bull; English: 20%<br>&bull; General Math: 40%<br>&bull; Computer: 40% |
| Test 4 | Test 5 | Test 6 |
| 1. Test duration is 2 hours.<br>2. Test consists of 100 MCQs.<br>3. Test consists of 3 sections.<br>&bull; Drawing: 50%<br>&bull; Aptitudes: 50% | 1. Test duration is 2 hours.<br>2. Test consists of 100 MCQs.<br>3. Test consists of 5 sections.<br>&bull; English: 10%<br>&bull; General Math: 20%<br>&bull; Analytical: 20%<br>&bull; Drawing: 25%<br>&bull; Aptitudes: 25% | 1. Test duration is 2 hours.<br>2. Test consists of 100 MCQs.<br>3. Test consists of 3 sections.<br>&bull; English: 20%<br>&bull; Arithmetic: 40%<br>&bull; Analytical: 40% |

# SECTION 1

# ENGLISH

## Guidelines
**This section has 20 questions, and each question has equal marks.**
**Click on Next to proceed further.**

**Q1. …………………… me, I would be happy to dedicate a few extra hours for the humanitarian cause.**

A) As of

B) As for

C) As from

D) As to

**Q2. They have a(n)…………………. on the top prize in the competition.**

A) advantage

B) edge

C) eye

D) vision

**Q3. Ahmed was true to his ………………… when he saved the child's life in the accident but asked for money as a favor from the child's parents.**

A) colors

B) tones

C) character

D) self

**Q4. Are we …………………… to leave on vacation?**

A) already

B) altogether

C) all together

D) all ready

**Q5. He is very careful. He…………………………… his children to drive his car in rush hour traffic.**

A) does not allow

B) did not allow

C) allowed

D) allow

**Q6. The coach's insistence on fitness has become ………………… He yells at players all the time.**

A) emotional

B) dilatory

C) obsessive

D) rational

**Q7. They …………………………… just reaching the office at 5 p.m. when I finished off my work.**

A) have been

B) will be

C) had been

D) were

**Q8. Would he like the dinner? I …………………. very hard to make it delicious.**

A) will be working

B) will work

C) worked

D) had worked

**Q9. Our group will be ……………. by your group at next intersection but the goal of both groups will remain same**.

A) joined

B) replaced

C) ignored

D) influenced

**Q10. The …………….. applauded enthusiastically after the performance was finished.**

A) audience

B) spectators

C) bystanders

D) onlookers

**Q11. She _____ for the upcoming tennis tournament.**

a. Trains

b. Is training.

c. Will training

d. Is going to train.

**Q12. I _____ New Zealand next year.**

a. go

b. will go

c. going

d. will go to

**Q13. There are some vacant rooms _____ in flats and shared houses.**

a. both

b. between

c. either

d. neither

**Q14. The sun rises _____ the east.**

a. in

b. On

c. from

d. towards

**Q15. Nitrogen gas is in abundance _____ the Earth.**

a. in

b. On

c. Above

d. along

**Q16. For good health, she _____ bed earlier.**

a. Should go

b. Should go to

c. Should goes

d. Should goes to

**Q17. If you have time, you _____ the nature museum.**

a. should visit

b. should visited

c. have to visit

d. have to visited

**Q18. It is our problem, not _____.**

a. their

b. their's

c. there

d. there's

**Q19. The number of guests at the party _____ amazing.**

a. was

b. were

c. had

d. had have

**Q20. _____ 600 and 800 B.C, Olympics were held in Athens, Greece.**

a. during

b. unless

c. until

d. between

# SECTION: 2
# MATH

## Guidelines

**This section has 40 questions, and each question has equal marks. Click on Next to proceed further.**

**Q21. What is the Arithmetic Mean of the following data 3,6,9,12,15.**

(A)  7

(B) 9

(C) 12

(D) 8

**Q22. Find two number whose sum is 28 and the difference is 4 _____?**

(A) 12,16

(B) 18,10

(C) 15,13

(D) 14,12

**Q23. 1 acre is equal to _____square feet?**

(A) 45434 square feet

(B) 34343 square feet

(C) 43572 square feet

(D) 43560 square feet

**Q24. What is the Sum of First 70 even Numbers?**

(A) 4970

(B) 4950

(C) 4900

(D) 4980

**Q25 What is the Sum of First 70 Odd Numbers?**

(A) 4900

(B) 4970

(C) 4960

(D) None of these

**Q26. 40 is subtracted from 60% of a number, the result is 50. Find the number?**

(A) 150

(B) 140

(C)130

(D) 110

**Q27. 85% of a number is added to 24, the result is the same number. Find the number?**

(A) 150

(B) 140

(C) 130

(D) 160

**Q28. 60% of a number is added to 120, the result is the same number. Find the number?**

(A) 300

(B) 200

(C) 400

(D) 500

**Q29. 25% of 30% of 45% is equal to_____?**

(A) 0.03375

(B) 0.3375

(C) 3.375

(D) 33.75

**Q30. 40% of a number is more than 20% of 650 by 190. Find the number?**

(A) 600

(B) 700

(C) 800

(D) 900

**Q31. How much is 80% of 40 is greater than 4/5 of 25?**

(A) 6

 (B) 9

 (C) 4

(D) 12

 **Q32.  A, B and C together earn Rs.150 per day while A and C together earn Rs.94 and B and C together earn Rs.76. The daily earning of C is:_____?**

(A) 10 Rs,

(B) 15 Rs,

(C) 20 Rs.

(D) 25 Rs.

**Q33. If 3 men or 4 women can construct a wall in 43 days, then the number of days that 7 men and 5 women take to construct it is :**

(A) 12 days

(B) 14 days

(C) 16 days

 (D) 18 days

**Q34. The average of two numbers is XY.If one number is equal to X ,the other number is equal to_____?**

(A) X

(B) 2Y

(C) XY-X

(D) 2 XY -2 X

**Q35. If the average marks of three batches of 55, 60 and 45 students respectively is 50, 55, 60, then the average marks of all the students is_____?**

(A) 53.33

(B) 54.68

 (C) 55

(D) None of these

**Q36. The average weight of 16 boys in a class is 50.25 kg and that of the remaining 8 boys is 45.15 kg. Find the average weights of all the boys in the class.**

(A) 47.55 kg

(B) 48 kg

(C) 48.55 kg

(D) 49.25 kg

**Q37. The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, then the weight of B is_____?**

(A) 17 kg

(B) 20 kg

(C) 26 kg

(D) 31 kg

**Q38. If the volume and surface area of a sphere is numerically the same then it's radius is_____?**

(A) 1 unit

(B) 2 units

(C) 3 units

(D) 4 units

**Q39. A right cylinder and a right circular cone have the same radius and the same volume. The ratio of the height of the cylinder to that of the cone is_____?**

(A) 3: 5

(B) 2: 5

(C) 3: 1

(D) 1: 3

**Q40. The radius of a circular cylinder is the same as that of a sphere. Their volumes are equal. The height of the cylinder is_____?**

(A) 4/3 times its radius

(B) 2/3 times its radius

(C) Equal to it's radius

(D) Equal to it's diameter

**Q41. The number of solid spheres each of diameter 6 cm, that could be moulded to form a solid metal cylinder of height 45 cm and diameter 4 cm is?**

(A) 3

(B) 4

(C) 5

(D) 6

**Q42. The length of the wire of 0.2mm radius that can be drawn after melting a solid copper sphere of diameter 18cm?**

(A) 24.3 m

 (B) 243 m

(C) 2430 m

(D) 24300 m

**Q43. If the volumes of two cubes are in the ratio 8: 1, the ratio of their edges is_____?**

(A) 8: 1

(B) 2√2 : 1

(C) 2 : 1

(D) None of these

**Q44. A metal sheet 27 cm long 8cm broad and 1 cm thick is melted into a cube. The difference between the surface areas of two solids is_____?**

(A) 284 cm2

(B) 286 cm2

(C) 296 cm2

(D) 300 cm2

**Q45. If the length, breadth and the height of a cuboid are in the ratio 6: 5: 4 and if the total surface area is 33300 cm2, then length breadth and height in cms, are respectively?**

(A) 90, 85, 60

(B) 85, 75, 60

 (C) 90, 75, 70

(D) 90, 75,60

**Q46. The Total cost of flooring a room at Rs.8.50 per square meter is Rs.510. If the length of the room is 8km it's breadth is_____?**

(A) 7.5m

 (B) 8.5m

(C) 10.5m

(D) 12.5m

**Q47. The length of a rectangular increased by 10% and it;s breadth is decreased by 10 %. Then the area of the new rectangle is_____?**

(A) Neither increased nor decreased

(B) Increased by 1%

(C) Decreased by 1%

(D) Decreased by 10%

**Q48. Total area of the 64 small squares of aches board is 400cm2. There is 3cm wide border around the chess board. What is the length of each side of the chess board?**

(A) 17cm

 (B) 20cm

(C) 23cm

(D) 26cm

**Q49. How many meters of carpet 63cm will be required to be a floor of a room 14m by 9cm?**

(A) 200m

(B) 210m

(C) 220m

(D) 185m

**Q50. A rectangular courtyard 3.78min long and 5.25m broad is to be paved exactly with square tiles all of the same size. The minimum number of such tiles is_____?**

(A) 450

(B) 430

(C) 440

(D) 460

**Q51. A rectangular carpet has an area of 120 square meters and a parameter of 46m. The length of it's diagonals is_____?**

(A) 11m

(B) 13m

(C) 15m

(D) 17m

**Q52. The average of first 10 even numbers is_____?**

(A) 18

 (B) 22

(C) 9

(D) 11

**Q53. The average of 11 numbers is 10.9. If the average of first six is 10.5 and that of the last six is 11.4 the sixth number is_____?**

(A) 11.0

(B) 11.3

(C) 11.4

(D) 11.5

**Q54.** The average of first ten prime numbers which are odd is_____?

(A) 12.9

(B) 13.8

(C) 15.8

 (D) 17

**Q55.** The average age of three boys is 15 years and their ages are in proportion 3:5:7. What is the age in years of the youngest boy?

(A) 15

(B) 9

 (C) 18

 (D) 21

**Q56.** A person purchases 90 clocks and sells 40 clocks at a gain of 10% and 50 clocks at a gain of 20%. If he sold all of them at a uniform profit of 15%, then he would have got Rs. 40 less. The cost price of each clock is:_____?

(A) Rs.50

(B) Rs.60

(C) Rs.80

(D) Rs.90

**Q57.** If 5% more is gained by selling an article for Rs. 350 than by selling it for Rs. 340, the cost of the article is:_____?

(A) Rs. 50

(B) Rs. 160

(C) Rs. 200

 (D) Rs. 225

**Q58.** A fair price shopkeeper takes 10% profit on his goods. He lost 20% goods during theft. His loss percent is:_____?

(A) 8

(B) 10

(C) 11

(D) 12

**Q59.** The cost price of an article is 64% of the marked price. Calculate the gain percent after allowing a discount of 12%.

(A) 37.5 %

(B) 38.5 %

(C) 42 %

(D) 27.5 %

**Q60. The cost price of a radio is Rs.1500 and it was sold for Rs.1230, find the loss %?**

(A) 18%

(B) 9%

(C) 15%

(D) 6%

# SECTION 3

# PHYSICS

## Guidelines

**This section has 40 questions, and each question has equal marks.**
**Click on Next to proceed further.**

**Q61. Of the following subatomic particles, the particle which has the same charge as the positron is;**
(A) Photon
(B) Electron
(C) Alpha particle
(D) Proton

**Q62. A ball is projected vertically upward from the surface of the earth and reaches its maximum height in 4.0 seconds. The ball's initial speed, in meters per second is approximately**

(A) 20
(B) 40
(C) 80
(D) 100

**Q63. The conductivity in metallic wires depends on**
(A) Free electrons only
(B) Positive ions only
(C) Negative ions only
(D) Positive ions, negative ions and electrons

**Q64. Momentum is a quantity whose unit might be the**
(A) foot-pound
(B) (C) erg
(C) (B) newton
(D) (D) gram centimeter per second

**Q65.** Two rectangular tanks stand next to each other on a horizontal table. The area of the bottom of the first tank is 40 square centimeters; that of the second tank is 80 square centimeters. Both tanks are filled with water to the same height. The ratio of the liquid pressure on the bottom of the second tank to that of the bottom of the first tank is

(A)1
(B) 2
(C) 4
(D) 16

**Q66.** Two freely falling objects, one 10 kg and one 20 kg, are dropped from the same height at the same time. Air resistance is negligible. Which of the following statements is (are) true? I. Both objects have the same potential energy at the top. II. Both objects fall with the same acceleration. III. Both objects have the same speed just before hitting the ground.

(A)III only
(B) I and II only
(C) II and III only
(D) I, II, and II

**Q67.** If a stone at the end of a string is whirled in a circle, the inward pull of the string on the stone

(A)is inversely proportional to the speed of the object
(B) is inversely proportional to the square of the speed
(C) is proportional to the speed
(D)is proportional to the square of the speed

**Q68.** A change in temperature of 450 C corresponds to a change in Fahrenheit degrees of

(A)25
(B) 45
(C) 81
(D) 113

**Q69.** The bending of a bimetallic strip when heated is primarily due to

(A)the good conductivity of the two metals
(B) the large coefficient of expansion of both metals
(C) the unequal expansion of the two metals
(D)the effect of gravity

**Q70.** If a gas is heated at constant pressure, which of the following descriptions will apply? I. Its volume increase is proportional to the temperature II. The kinetic energy of the molecules decreases III. The kinetic energy of the molecules increases Page 8 of 13

(A)I only
(C) I and II only
(B) I and III only
(D) II and III only

**Q71.** A 20 ohm and a 60 ohm resistor are connected in series to a DC generator. The voltage across the 20 ohm resistor is 80 volts. The current through the 60 ohm resistor

(E)  cannot be calculated with the given information
(F)  (B) is about 1.3 A

(C) is 4.0 A
(D) 5.0 A

**Q72. An object is placed 10 centimeters from a concave spherical mirror whose radius of curvature is 12 centimeters. The distance of the image from the mirror is**
(A)5 cm
(B) 10 cm
(C) 15 cm
(D) 20 cm

**Q73. Two frequencies sounded together produce 3 beats per second. If one of the frequencies is 400 vibrations per second, the other frequency will be?**
(A)1200 vib/sec
(B) 403 vib/sec
(C) 397 vib/sec
(D) 133.33 vib/sec

**Q74. X rays consist of**
(A) a stream of neutrons
(B) a stream of electrons
(C) radiation similar to radon
(D) radiation similar to gamma rays

**Q75. During the time that sound travels 1100 feet in air, light can travel in vacuum a distance of about**
(A)1100 miles
(B) 200000 miles
(C) 20000 miles
(D)11000 km

**Q76. A spacecraft is approaching the earth. Relative to the radio signals it sends out, the signal received on the earth have**
(A) a lower frequency
(B) a higher velocity
(C) a shorter wavelength
(D) all of the above

**Q77. All of the following pure elements are good electrical conductors except**
(A) copper
(B) aluminum
(C) silver
(D) iron

**Q78. Which of the following examples of electromagnetic radiation has the most energy per quantum?**
(A) Radio waves
(B) Microwaves
(C) visible light
(D) X-rays

**Q79. Three capacitors each of value 0.1F are connected in series, then there total capacitance is closest to**

(A) 0.0333F

(B) 0.3333F

(C) 0.3F

(D) 3.0F

**Q80. Atomic spectra can be explained by**

(A) The Bohr atomic model

(B) Quantum Mechanics

(C) Quantized orbits of electrons

(D) All of the above

**Q81. When U 235 92 decays by alpha particle emission, the daughter nuclei formed is**

(A) Th 231 90

(B) Pa 233 91

(C) Pa 234 91

(D) Pu 239 94

**Q82. We can increase the capacitance of a parallel plate capacitor by**

(A) cooling the plates.

(B) bringing the plates closer together.

(C) decreasing the dielectric constant of the material between the plates.

(D) increasing the voltage across the plates.

**Q83. Terminal velocity is usually defined as the**

(A) velocity of shock waves

(B) velocity of light in water

(C) velocity at which air resistance balances gravity

(D) All of the above

**Q84. Our sun releases energy by nuclear fusion reactions. What actually happens?**

(A) Hydrogen is converted to helium

(B) Helium is converted to hydrogen

(C) Two nuclei change into one nucleus

(D) One nucleus splits into two nuclei

**Q85.Saponification results in the formation of:**

(A) Glass

(B) Polymer

(C) fertilizer

(D) Soap

**Q86. A measuring cylinder is used to measure.**

A. Mass

B. Area

C. Volume

D. Level of liquid

**Q87. The number of base units in SI are.**

A. 3

B. 6

C. 7

D. 9

**Q88. A car is made on the principles of**

A. Electronics

B. Thermodynamics

C. Electricity

D. Mechanics

**Q89. Standards, of physical quantities were established in**

A. 1910

B. 1020

C. 1950

D. 1960

**Q90. While rounding the numbers if last digit is 5, then**

A. It is simply dropped

B. The digit on its left is increased by 1

C. It is rounded to get nearest even number

D. It remain same.

**Q91. The study of internal structure of Earth is called**

A. Atomic Physics

B. Plasma Physics

C. Geo physics

D. Nuclear Physics

**Q92. The base quantity is.**

A. Volume

B. Torque

C. Mass

D. Momentum

**Q93. The number 275.00 consists of significant figures.**

A. 4

B. 3

C. 2

D. 5

**Q94. A thimble of circular scale consists of equal division.**

A. 100

B. 10

C. 1000

D. None of these

**Q95. Speedometer measures the**

A. Acceleration

B. Velocity

C. Speed

D. All of these

**Q96. The quantities that are completely described by only magnitude are**

A. vector

B. Scalar

C. Base

D. Derived

**Q97. Quantities between which a graph is plotted are called.**

A. Scalars

B. Vectors

C. Variables

D. None

**Q98. Pressure is quantity.**

A. Vector

B. Scalar

C. Base

D. Derived

**Q99. The quantities that are described completely by magnitude and direction are.**

A. Scalar

B. Vector

C. Base

D. Derived

**Q100. The motion of a body is straight line is**

A. Random motion

B. Linear motion

C. Translatory motion

D. Circular motion