

**CADET COLLEGE FAISALABAD**  
**SAMPLE PAPER : 1<sup>ST</sup> YEAR ENTRY TEST**  
**Part (Science)**

**Total Marks: 75**  
**Time 1:30 Hours**

ID: \_\_\_\_\_

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

**Q No 1. Multiplies choice questions (MCQs)**

**15**

**Physics**

- (i) The loudness of the sound is most closely related to :  
(a) Amplitude (b) Frequency (c) Period (d) Wavelength
- (ii) If the length of the simple pendulum is halved its new time period will become:  
(a)  $2T$  (b)  $\frac{T}{2}$  (c)  $\frac{T}{\sqrt{2}}$  (d)  $\sqrt{2} T$
- (iii) Waves transfer :  
(a) Velocity (b) Energy (c) Wavelength (d) Frequency
- (iv) Which part of D.C motor reverses direction of current through the coil every half cycle?  
(a) The slip rings (b) The armature (c) The commutator (d) The brushes

**Math**

- (v)  $\sec \theta =$  \_\_\_\_\_  
(a)  $\sin^2 \theta$  (b)  $1 - \tan^2 \theta$  (c)  $1 + \sin^2 \theta$  (d)  $1 + \tan^2 \theta$
- (vi) Find x, in proportion 4: x :: 5:15  
(a)  $\frac{75}{4}$  (b)  $\frac{3}{4}$  (c) 12 (d)  $\frac{4}{3}$
- (vii) If  $\frac{24}{7} = \frac{6}{x}$  then  $4x =$  \_\_\_\_\_  
(a) 7 (b)  $\frac{7}{4}$  (c) 4 (d)  $\frac{9}{6}$
- (viii) The number of method to solve a quadratic equation is.  
(a) 1 (b) 2 (c) 3 (d) 4

**Chemistry**

- (ix) Who put forward law of mass action?  
(a) Lewis (b) Guldberg (c) Newton (d) Hook's
- (x) The functional group in Carboic acid is  
(a) COH (b) COOH (c) CNOH (d) CHO
- (xi) Which ion causes temporary hardness in water?  
(i) Bi Carbonate (b) Carbonate (c) Chloride (d) Sulphate
- (xii) Any change in environment affecting on body is called.  
(a) Stimulus (b) Receptor (c) effectors (d) None

### **Biology**

- (xiii) The relationship between living organism and its environment is called:  
(a) Ecosystem (b) symbiosis (c) ecology (d) Biomass
- (xiv) The formula for alkyne has:  
(a) Single band (b) double band (c) triple band (d) none of these
- (xv) The elbow joint is the example of:  
(a) moveable joint (b) immovable joint (c) fixed joint (d) All joint

### **OR** **Computer**

- (xiii) A software that facilitates programmers in writing computer program is known as \_\_\_\_\_.  
(a) compiler (b) an editor (c) an IDE (d) a debugger
- (xiv) Which of the following is a valid line of code?  
(a) int=20; (b) grade= 'A'; (c) line= this is a line; (d) none of them
- (xv) An array is a \_\_\_\_\_ structure.  
(a) Loop (b) Control (c) Data (d) Conditional

## **SUBJECTIVE PAPER**

### **Physics**

- Q. 2. Attempt the following short questions:- (5x3=15)
- (i) Differentiate between A.C and D.C ?
  - (ii) What are electric field lines?
  - (iii) Explain the term refractive index.
  - (iv) If the length of simple pendulum is doubled what will be the change in its time period?
  - (v) What's is shells law?

### **Math**

- Q.3. Attempt following short questions. (3x5=15)
- (i) Define quadratic equation.
  - (ii) If  $3(4x - 5y) = 2x - y$ , find the ratio  $x : y$ .
  - (iii) Find  $r$ , when  $l = 4\text{cm}$ ,  $\theta = \frac{1}{4}$  radians.
  - (iv) Convert  $\frac{7\pi}{8}$  into degree.
  - (v) If  $A=N$ ,  $B=W$  find  $A \cup B$ .

### **Chemistry**

- Q.4. Attempt the following short questions. (3x5=15)
- (i) Define functional group.
  - (ii) Differentiate between soft and hard water.
  - (iii) Write significance of vitamin.
  - (iv) What are reversible reactions?
  - (v) Define homologous series.

### **Biology**

- Q.6. Attempt the following short questions. (3x5=15)
- (i) What is meant by skelton?
  - (ii) Differentiate between food chain and food web.
  - (iii) what is the function of pepsin enzyme?
  - (iv) what is meant by broad-spectrum antibiotics?
  - (vi) Define homeostasis.

### **OR**

### **Computer**

- Attempt following short questions . (3x5=15)
- (i) Describe syntax of "For Loop"
  - (ii) Why do we need selection statement?
  - (iii) Find out the result of the following expression:  
 $7+3*(12+2)$
  - (iv) What are the main parts of structure of a C program?
  - (v) List down five reserved words in C programming language.