DHA SUFFA UNIVERSITY

SAMPLE ENTRANCE TEST

INSTRUCTIONS

- Actual Entrance Test is COMPUTER-BASED conducted ONLINE in designated DSU Computer Labs
- Entrance Test duration is *minimum* 2 HOURS
- Questions in an Entrance Test are arranged in mixed order *i.e.* there are NO SEPARATE SECTIONS. However, total number of questions from each subject category will be as per the program chosen by the candidate. Number of questions are as per the following matrix:

Sr. No.	Programs	Subjects				
		Maths	English	Logic	Physics	Chemistry
1	BE (Mechanical)	30	15	15	30	10
2	BE (Electrical)					
3	BS (Computer Science)	30	20	20	30	
4	BBA	40	40	20		
5	BS (Accounting & Finance)					

- Sample questions from each subject have been provided here for gaining familiarity with different types of questions as well as their level of difficulty
- Candidate is permitted to choose more than one program for seeking admission in DSU in which case the candidate will be required to attempt questions from all relevant subjects;

    *For example, a candidate choosing to apply for the **BE(Electrical)** and **BBA** programs will be required to attempt the test with questions satisfying both program requirements as follows;*

Mathematics	=	40
English	=	40
Logic	=	20
Physics	=	30
Chemistry	=	10

    Therefore, this would require attempting more than 100 questions (140 in this case) as a requirement for competing for more than one program seat with one entrance test. Please note that for the extra questions to be attempted extra time proportionately will be given.

- Candidate can navigate back and forth between questions during the COMPUTER-BASED TEST.
- There is NO NEGATIVE MARKING in the Entrance Test.
- Candidate will NOT be required to attempt irrelevant subject questions, *e.g., a candidate selecting* **BBA** *or* **BS(Accounting & Finance)** *TEST ONLY will* <u>not receive</u> *any questions from* Physics *or* Chemistry *domains in his/her Entrance Test as these are irrelevant to their chosen discipline*
- Candidates will be provided <u>a Pencil</u> and <u>Blank Sheet</u> of paper for rough work during the ONLINE TEST and they will NOT BE ALLOWED to take the rough work sheet with them after the test.

Sample questions from all five (05) subjects; **English**, **Logic**, **Mathematics**, **Physics** and **Chemistry** along with their answer keys follow.

[Contact DSU Admissions Office at 021-35244851-2 for any query]

SAMPLE QUESTIONS

ENGLISH

Q.   Read the following passage and answer the questions that follow.

For the past fifty years, whatever has been done for the cause of progress and good against absolute governments and heredity aristocracies has been done in the name of the Rights of Man; in the name of liberty as the means, and of well-being as the object of existence. All the acts of the French Revolution and the revolutions which followed and imitated it were consequences of the Declaration of the Rights of Man. All the revolutionary schools preached that man is born for happiness, that he has the right to seek it by all the means in his power, that no one has the right to impede him in this search, and that he has the right of overthrowing all the obstacles which he may encounter on his path. When all barriers are torn down, man will be free. And nevertheless, in these past fifty years, the sources of social wealth and the sum of material blessings have steadily increased. Production has doubled. Commerce and continual crisis, inevitable n the utter lack of organization, have acquired a greater force of activity and a wider sphere for its operations. Communication has almost everywhere been made secure and rapid, and the price of commodities has fallen in consequence of the diminished cost of transport.

1.   As stated in this passage, the Declaration of the Rights of Man had success in;

   A)   establishing absolute governments
   B)   prompting the French Revolution
   C)   stopping all revolutions after the French Revolution
   D)   building up heredity aristocracies
   E)   preventing the cause of progress and good against absolute governments

2.   According to the information in this passage, when people have achieved the right to seek happiness and to overthrow all obstacles in their path to happiness.

   A)   poverty was abolished
   B)   a utopia was achieved
   C)   the aristocracy was overthrown
   D)   liberty was achieved
   E)   liberty, equality, and fraternity reigned

3.   According to this passage, decreases in the cost of merchandise resulted from

   A)   increases in the amount of available labor
   B)   equal division in the consumption of material goods
   C)   decreases in costs of movement of goods
   D)   more laborers becoming merchants
   E)   better rapport between capital and labor

Q.   Select the word or phrase whose meaning is closest to the given word.

4.   CALLOUS

   A)   extraordinary
   B)   insensitive

C) tolling

D) playful

E) generous

5. RELENTLESS

A) wizened

B) temporary

C) extracurricular

D) impermanent

E) endless

6. INEXORABLY

A) all-present

B) visionary

C) prescient

D) unstoppably

E) relaxed

7. PROPHETIC

A) visionary

B) quantifiable

C) extraordinary

D) ceaseless

E) extraterrestrial

8. REMOTE

A) chaos

B) turmoil

C) bedlam

D) anarchy

E) far away

Q. Sentence Completions: Choose the word or words that, when inserted in the sentence, best fits the meaning of the sentence as a whole.

9. The governor warned that if the tax was levied on the colonists, _____ and possibly rebellion would ensue and all laws aimed at keeping order would be _____.

A) mayhem . . reciprocated

B) anarchy . . contingent

C) reverie . . trivial

D) chaos . . moot

E) sadism . . extraordinary

10. Julius Caesar led the famous Roman First Triumvirate and conquered distant lands stretching far north into_____ areas of Gaul and Britain.

A) remote

B) blanched

C) ostracized

D) uncanny

E) prominent

11. Walking _____ past the basilisk, Diego made sure to remain unseen and unheard.

A) obscurely

B) prehistorically

C) virtuously

D) ravenously

E) stealthily

Q. Replace underlined word(s) with word or phrase that is grammatically correct.

12. The book had <u>a frighteningly and unhappy ending</u>.

A) *correct as is*

B) a frighteningly and unhappily ending

C) an ending that was frightening and unhappily

D) a frightening and unhappy ending

E) an ending that was frightening and it was also an unhappy one.

13. Since her graduation from business school last spring, Adela has become known <u>as the more important</u> member of her graduating class.

A) *correct as is*

B) as the most important

C) as the most importantly

D) as the more importantly

E. like the most important

Q. Find the sentence that has a mistake in grammar or usage.

14. A) The steam rose up from the hot pavement.

B) She put the kitten down carefully beside its mom

C) Neither of us is going to the party.

D) *no mistakes*

15. A) The lost dog wandered sad through the streets.

B) Frustrated, Boris threw his pencil across the room

C) We'll stop at their house first.

D) *no mistakes*

Answer Key (Subject : ENGLISH)

Question	Answer	Question	Answer	Question	Answer
1	B	6	D	11	E
2	D	7	A	12	D
3	C	8	E	13	B
4	B	9	D	14	D
5	E	10	A	15	A

SAMPLE QUESTIONS

LOGIC or ANALYTICAL REASONING

Q. **Choose the best answer from the given options;**

1. What is the missing letter in this series?

     a   c   e   ☐   i

A)   f
B)   g
C)   h
D)   j
E)   d

2. What is the missing letter in this series?

     h   g   ☐   e   d

A)   a
B)   b
C)   c
D)   f
E)   i

Q. **What is the missing number?**

3.   45/9 = 12 - ☐

A)   5
B)   6
C)   7
D)   8

4.   6   11   21   36   56   81   ☐

A)   101
B)   111
C)   109
D)   108
E)   107

5.   125   80   45   20   ☐

A)   0
B)   5
C)   8
D)   10
E)   12

6.   3   5   8   13   21   □

   A)   32
   B)   34
   C)   36
   D)   38
   E)   40

7.   1   6   16   31   51   76   □
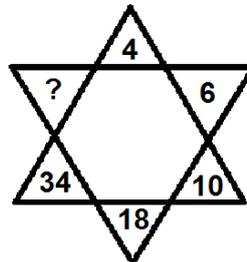
   A)   104
   B)   105
   C)   106
   D)   107
   E)   108

8.   If the word 'NEW YORK' can be encrypted as PGYAQTM, then how will you code the word 'CHARLOTTE" ?

   A)   EICSNPVVG
   B)   EJCTNQVVG
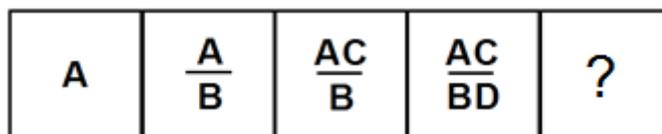   C)   EICTNPVVF
   D)   EJCSMPVVG
   E)   EJCTNPVVG

9.   What is the missing number?
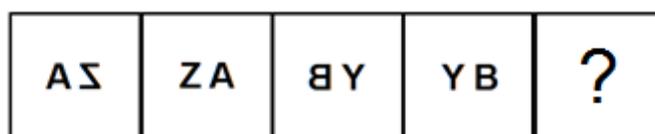
   A)   62
   B)   64
   C)   66
   D)   58
   E)   54

10.   What is the next fraction in the series shown?

   A) $\dfrac{ACE}{DE}$
   B) $\dfrac{ACD}{BD}$
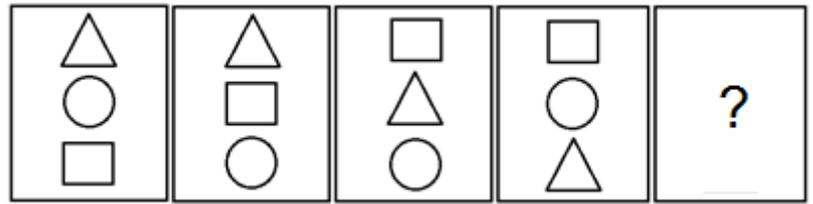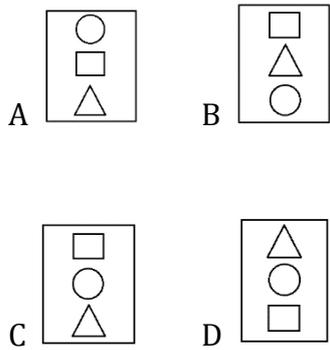   C) $\dfrac{ACE}{BD}$
   D) $\dfrac{AC}{BDE}$

A	$\dfrac{A}{B}$	$\dfrac{AC}{B}$	$\dfrac{AC}{BD}$	?

11.   What is the next number in series shown?

   A)   X C
   B)   C X
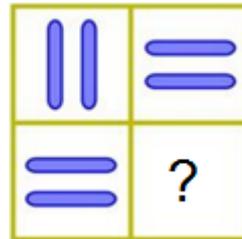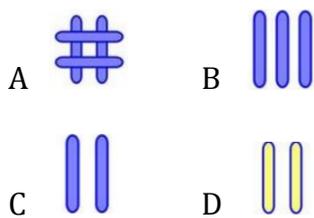   C)   Ɔ X
   D)   X Ɔ

AƧ	ZA	ᗺY	Y B	?

12. What is the next pattern in series?

A   B

C   D

13. Which is the missing pattern ?

A   B

C   D
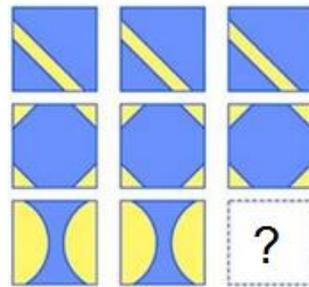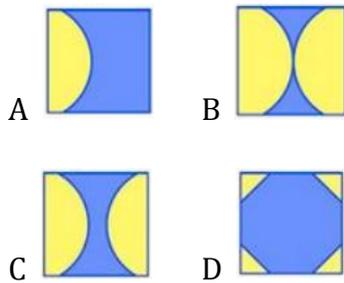
14. What shape is missing from the frame?

A   B

C   D

15. What shape is missing in the series?

A   B

C   D
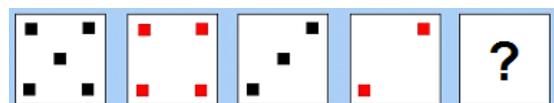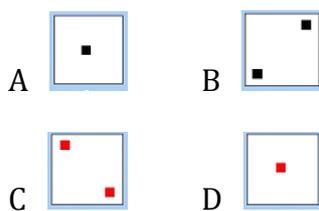
Answer Key (Subject : LOGIC)

Question	Answer	Question	Answer	Question	Answer
1	B	6	B	11	C
2	D	7	C	12	A
3	C	8	B	13	C
4	B	9	C	14	C
5	B	10	C	15	A

SAMPLE QUESTIONS

MATHEMATICS

Q.   Choose the appropriate answer from the given options;

1.   The perimeter of a triangle is 240. Its sides are proportional to 3:4:5. The largest side of the triangle is

A)   80
B)   120
C)   60
D)   100
E)   None of the above

2.   The width of a rectangle is 6 cm less than its length. If its perimeter is 80 cm then its lengths (in cm) and area (in cm^2) are respectively

A)   16 , 351
B)   23 , 391
C)   17 , 391
D)   20 , 341
E)   None of the above

3.   A shop was sold for Rs. 3,000,000 by an agent who received a commission of 2.5%. How much commission did he receive?

A)   30,000
B)   750,000
C)   7,500
D)   75,000
E)   None of the above

4.   How long will it take Jafar and Kadir working together to cultivate a field which Jafar can cultivate alone in three hours and Kadir alone in six hours?

A)   Two hours
B)   Four hours
C)   Eight hours
D)   None of the above

5.   If y^{-4} = 256 then y will be

A)   -4
B)   ¼
C)   4
D) $\frac{1}{256}$
E)   None of the above

6. If $y + 1/y = 4$, then $y^2 + 1/y^2$ is

   A) 16
   B) 2
   C) 4
   D) 14
   E) None of the above

7. Tickets numbered 1 to 20 are mixed up and then a ticket is drawn at random. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?

   A) $\dfrac{2}{5}$
   B) $\dfrac{1}{2}$
   C) $\dfrac{8}{15}$
   D) $\dfrac{9}{20}$

8. 39 persons repair a road in 12 days, working 5 hours a day. In how many days will 30 persons, working 6 hours a day, complete the work?

   A) 10
   B) 13
   C) 14
   D) 15

9. A fort had a provision of food for 150 men for 45 days. After 10 days, 25 men left the fort. The number of days for which the remaining food will last, is

   A) $29\dfrac{1}{5}$
   B) $37\dfrac{1}{4}$
   C) 42
   D) 54

10. Two dice are tossed. The probability that score is a prime number is

    A) $\dfrac{1}{6}$
    B) $\dfrac{5}{12}$
    C) $\dfrac{1}{2}$
    D) $\dfrac{7}{9}$

11. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. The ratio of A:B will be

    A) 2:1
    B) 1:2
    C) 1:1
    D) 4:3

12. The population of town is increased from 1,75,000 to 2,62,500 in a decade. the average percentage increase of population per year will be

A) 4%
B) 6%
C) 5%
D) 50%

13. Of the following fractions, which is less than $\frac{3}{5}$?

A) 4/5
B) 6/5
C) 31/15
D) 6/11
E) None of the above

14. By how many ways (methods) the letters in the word LEADER can be arranged?

A) 15
B) 30
C) 350
D) 360
E) none of the above

15. What is the smallest integer u, for which 5u > 625

A) 3
B) 4
C) 5
D) 6
E) None of the above

Answer Key (Subject : MATHEMATICS)

Question	Answer	Question	Answer	Question	Answer
1	D	6	D	11	D
2	B	7	A	12	C
3	D	8	B	13	D
4	A	9	C	14	D
5	B	10	B	15	E

SAMPLE QUESTIONS

PHYSICS

1. A 50 µF capacitor has a potential difference of 8 V across it. The charge on capacitor is

   A) 4.0×10^{-4}C
   B) 4.0×10^{-3}C
   C) 6.25×10^{-6}C
   D) 6.25×10^{-5}C

2. Two forces equal in magnitude have a resultant with its magnitude equal to either. The angle between them is

   A) 45º
   B) 60º
   C) 90º
   D) 120º

3. A current of 4.8 A is flowing in a conductor. The number of electrons passing through any cross-section per second is

   A) 3×10^{19}
   B) 3×10^{20}
   C) 7.68×10^{19}
   D) 7.68×10^{20}

4. The scalar product of vectors $\vec{A} = 2\hat{\imath} + 5\hat{k}$ and $\vec{B} = 3\hat{\jmath} + 4\hat{k}$ is

   A) 20
   B) 23
   C) $5\sqrt{33}$
   D) 26

5. Find the torque of a force $\vec{F} = -3\hat{\imath} + \hat{\jmath} + 5\hat{k}$ acting at point $\vec{r} = 7\hat{\imath} + 3\hat{\jmath} + \hat{k}$

   A) $14\hat{\imath} - 38\hat{\jmath} + 16\hat{k}$
   B) $4\hat{\imath} + 4\hat{\jmath} + 6\hat{k}$
   C) $-21\hat{\imath} + 4\hat{\jmath} + 4\hat{k}$
   D) $-14\hat{\imath} + 38\hat{\jmath} - 16\hat{k}$

6. When the velocity of a body is doubled

   A) Its K.E. is doubled
   B) Its P.E. is doubled
   C) Its momentum is doubled
   D) Its acceleration is doubled

7. A 1 kg mass has a Kinetic Energy of 1 Joule when its speed is

   A) 0.45 ms^{-1}
   B) 1 ms^{-1}

C) 1.4 ms^{-1}
D) 4.4 ms^{-1}

8. The Kinetic Energy of a body of mass 2 kg and momentum of 2 Ns is

    A) 1 J
    B) 2 J
    C) 3 J
    D) 4 J

9. A body of mass m is moving in a circle of radius r with a constant speed v. The work done by the centripetal force in moving the body over half the circumference of the circle is

    A) $\frac{mv^2}{r} \times 2r$
    B) $\frac{mv^2}{r} \times \pi r$
    C) $\frac{mv^2}{r} \times r$
    D) zero

10. Dimensions of pressure are same as

    A) Force per unit area
    B) P.E. per unit volume
    C) K.E. per unit of volume
    D) All of the above

11. The frequency of oscillation of a simple pendulum of length L, mounted in a cabin that is falling freely under gravity is

    A) Infinity
    B) $\sqrt{\frac{g}{2L}}$
    C) zero
    D) $\sqrt{\frac{g}{L}}$

12. The time-period of a simple pendulum of length l is given by $T = 2\pi\sqrt{\frac{l}{g}}$. If the length of pendulum is increased by four time its initial length. The new time-period will be

    A) $2\pi\sqrt{\frac{l}{g}}$
    B) $4\pi\sqrt{\frac{l}{g}}$
    C) $2\pi\sqrt{\frac{l}{4g}}$
    D) $2\pi\sqrt{\frac{g}{4l}}$

13. If a wave oscillator vibrates 10 times in one second with a speed of 10 ms^{-1}, then the correct wavelength of the wave is

    A) 1 m
    B) 30 m
    C) 50 m
    D) 10 m

14. The difference between C_p and C_v is equal to

    A) Planck's constant
    B) Gravitational constant
    C) Boltzman constant
    D) Universal Gas constant

15. For an isothermal process, the first law of thermodynamics reduces to

    A) $Q = \Delta U + W$
    B) $Q = \Delta U - W$
    C) $Q = W$
    D) $Q = \Delta U$

Answer Key (Subject : PHYSICS)

Question	Answer
1	A
2	D
3	A
4	A
5	D

Question	Answer
6	C
7	C
8	A
9	D
10	D

Question	Answer
11	C
12	B
13	A
14	D
15	C

SAMPLE QUESTIONS

CHEMISTRY

1. Properties that distinguish a substance from other but does not tell about its reaction, is

    A) Energetic property
    B) Reacting property
    C) Chemical property
    D) Physical property

2. Boiling point of a liquid is a

    A) Physical property
    B) Bonding property
    C) Internal property
    D) Chemical property

3. Burning is a _____ process

    A) Chemical
    B) Physical
    C) Nuclear
    D) Biological

4. The total pressure of a mixture gas is _____ of individual gases

    A) Sum of partial pressures
    B) Multiple of partial pressure
    C) Difference in partial pressure
    D) Independent of partial pressure

5. The SI unit for the measurement of pressure of gas is

    A) Newton
    B) Pascal
    C) Pound
    D) Coulomb

6. The instrument to measure the pressure of gas is called

    A) Viscometer
    B) Stalagmometer
    C) Barometer
    D) Photometer

7. Number of electrons in the valence shell of the central atom of a molecule is 8. The molecule is

    A) BeH_2
    B) SCl_2
    C) SF_6
    D) BCl_3

8. Which one of the following is paramagnetic?

    A) N_2
    B)   NO
    C)   CO
    D) O_3

9. The hybridization of orbitals of N atom in NO_3^-, NO_2^+ and NH_4^+ are respectively

    A) sp^2, sp^3, sp
    B)   sp, sp^2, sp^3
    C) sp^2, sp, sp^3
    D)   sp, sp^3, sp^2

10. During the formation of a chemical bond

    A)   Energy decreases
    B)   Energy increases
    C)   Energy of the system does not change
    D)   Electron-electron repulsion becomes more than the nucleus-electron attraction

11. Which of the following enhances leathering property of soap

    A)   Sodium rosinate
    B)   Sodium carbonate
    C)   Sodium stearate
    D)   Tri-Sodium phosphate

12. Benzene reacts with chlorine in sunlight to give a final product

    A) C_6H_5Cl
    B) C_6Cl_6
    C) $C_6H_6Cl_6$
    D) CCl_4

13. Alkyl halides react with di-alkyl copper reagents to give

    A)   Alkanes
    B)   Alkyl copper halides

1

C)   Alkenes
D)   Alkyl halides

14.   Which of the following is an intensive property?

A)   Temperature
B)   Surface tension
C)   Viscosity
D)   All of the above

15.   The temperature of the system decreases in an

A)   Adiabatic compression
B)   Isothermal expansion
C)   Isothermal compression
D)   Adiabatic expansion

Answer Key (Subject : CHEMISTRY)

Question	Answer
1	D
2	A
3	A
4	A
5	B

Question	Answer
6	C
7	B
8	B
9	C
10	A

Question	Answer
11	C
12	C
13	A
14	D
15	D