



UNITED ACADEMY

Model Question for Pre-Registration Entrance Exam 2077 Faculty of Science

Time: 1 hour

Full Marks: 60

Pass Marks: 24

Instructions for exam:

1. All questions are objective and based on SEE (Class Ten) course.
2. Read the questions carefully before clicking the right answer.
3. You are allowed to use the scrap paper for the calculations.
4. There will be 60 questions in the Examination from Math, Physics, Chemistry, Biology and English.
5. Calculator is allowed for calculation in Exam.

Mathematics (Comp. Math /Opt Math)

(Note: 15 questions will be asked from this group.)

1. If $A = \{p, q, r\}$, then the number of proper subsets of A is
(a) 0 (b) 7 (c) 8 (d) 1
2. The probability of 53 Sundays in a leap year is
(a) $\frac{2}{7}$ (b) $\frac{53}{365}$ (c) $\frac{53}{366}$ (d) $\frac{1}{7}$
3. $\tan 20^\circ + \tan 40^\circ + \sqrt{3} \tan 20^\circ \tan 40^\circ$ is equal to
(a) $\frac{\sqrt{3}}{2}$ (b) $\frac{\sqrt{3}}{4}$ (c) 1 (d) None of these.
4. The point (2, 3) divides the line joining (1, 2) and (5, 6) in the ratio
(a) 2:3 (b) 3:2 (c) 3:1 (d) 1:3
5. The radius of the circle $4(x^2 + y^2) + 12ax - 6ay - a^2 = 0$ is
(a) $\frac{7a}{4}$ (b) $7a$ (c) $28a$ (d) $\frac{3a}{2}$

Physics

(Note: 10 questions will be asked from this group.)

1. When an object floats in water, the apparent weight of the object will be
(a) zero (b) greater than real weight
(c) less than real weight (d) equal to real weight
2. A steel ball sinks in water but a glass ball floats in mercury. Both will float in.....
(a) molten gold (b) molten platinum
(c) molten uranium (d) molten copper
3. When an object is kept in between optical centre and focal length in convex lens, the final image formed will be
(a) real and magnified (b) virtual and magnified
(c) real and diminished (d) virtual and diminished
4. The direction of induced emf was first found by
(a) Farady's law (b) Lenz's law
(c) Kepler's law (d) Newton's law

5. A fully dressed astronaut can jump 1.5 meter on earth. What height can be jumped on mars whose gravity is one quarter than that of earth?

- (a) 6 m (b) 4 m (c) 3 m (d) 1.5 m

Biology

(Note: 10 questions will be asked from this group.)

1. Cell theory was proposed by

- (a) Robert Hooke (b) Aristotle
(c) Schleiden and Schwaan (d) Leeuwonhock

2. Vascular Cryptogams are

- (a) Thallophytes (b) Bryophytes (c) Pteridophytes (d) Gymnosperms

3. A cell divides times to produce 32 daughter cells.

- (a) 16 (b) 8 (c) 4 (d) 32

4. Which of the following group of animals are found only in sea?

- (a) Porifera (b) Echinodermata (c) Mollusca (d) None of above

5. Pinnae are found in

- (a) Frog (b) Gasialis (c) Rabbit (d) Crow

Chemistry

(Note: 10 questions will be asked from this group.)

1. When copper sulphate solution is treated with less amount of ammonia solution, bluish white precipitate of is formed.

- (a) $\text{Cu}(\text{OH})_2$ (b) $[\text{Cu}(\text{NH}_3)_4]^{++}\text{SO}_4$ (c) CuSO_4 (d) NH_4OH

2. What composition should be necessary for the preparation of CO_2 gas in the laboratory?

- (a) $\text{CaCO}_3 + \text{dil. H}_2\text{SO}_4$ (b) $\text{CaCO}_3 + \text{dil. HCl}$ (c) CaCO_3 (d) $\text{Ca}(\text{HCO}_3)_2$

3. Ammonia is

- (a) acidic (b) basic (c) neutral (d) amphoteric

4. Glycerol is

- (a) monohydric alcohol (b) dihydric alcohol (c) trihydric alcohol (d) aldehyde

5. In the modern periodic law, the physical and chemical properties of the elements are the periodic function of

- (a) atomic number (b) atomic weight (c) electron gravity (d) none of all

English

(Note: 15 questions will be asked from this group.)

1. He.....foolish.

- (a) felt (b) became (c) got (d) called

2. The tomatoes are growing

- (a) red (b) fast (c) well (d) big

3. Socrates said nothingharm a good man.

- (a) can (b) could (c) would (d) a and b

4. Nobody expectedlarge audience.

- (a) rather (b) a (c) such a (d) such

5. John is more stupidthe two.

- (a) of (b) in (c) between (d) among