



**PROVA DI AMMISSIONE AI CORSI DI LAUREA E DI LAUREA MAGISTRALE A CICLO UNICO
DIRETTAMENTE FINALIZZATI ALLA FORMAZIONE DI ARCHITETTO (IN LINGUA INGLESE)**

Anno Accademico 2019/2020

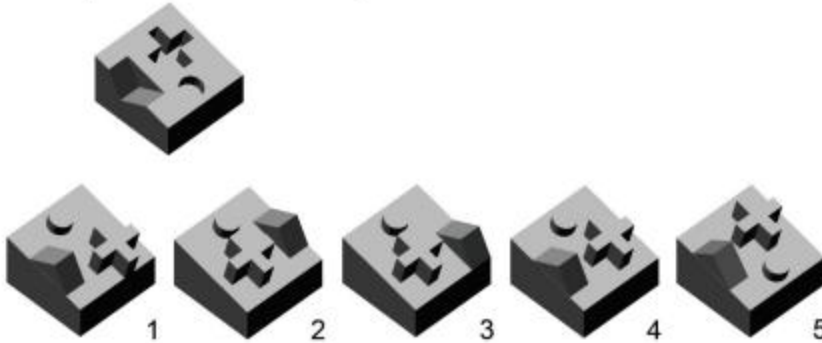
General Culture and Logical Reasoning Test

1. Which of the following novelists was also a mathematician?
 - A) Lewis Carroll
 - B) Michail A. Bulgakov
 - C) George Eliot
 - D) Gustave Flaubert
 - E) George B. Shaw
2. The Divine Comedy is divided into?
 - A) 3 canticles
 - B) 99 chapters
 - C) 12 books
 - D) 34 songs
 - E) 24 cantos
3. Which of the following countries is not a member of the European Union?
 - A) Turkey
 - B) Lithuania
 - C) France
 - D) Romania
 - E) Sweden
4. Which of the following plays was not written by William Shakespeare?
 - A) Lady Windermere's Fan
 - B) The Taming of the Shrew
 - C) Midsummer Night's Dream
 - D) The Tempest
 - E) The Merry Wives of Windsor
5. Which of these countries does not share a border with Italy?
 - A) Croatia
 - B) Austria
 - C) Slovenia
 - D) Switzerland
 - E) France
6. What is the Nevsky Prospect, one of St. Petersburg's main attractions?
 - A) A street
 - B) A column
 - C) A building
 - D) A triumphal arch
 - E) A church

7. Which physicist won the Nobel Prize in 1922 for his studies on the structure of the atom?
- A) Niels H. D. Bohr
 - B) Joseph J. Thomson
 - C) Ernst Rutherford
 - D) Max Planck
 - E) Robert A. Millikan
8. Article 33 of the Constitution of the Italian Republic recites: "The Republic guarantees the freedom of which may be freely taught." Please fill in the blanks.
- A) The arts and sciences
 - B) The humanities and techniques
 - C) Art and culture
 - D) The humanities and sciences
 - E) Culture and scientific research
9. The famous chorus *Va, pensiero* is part of which opera by Giuseppe Verdi?
- A) Nabucco
 - B) Aida
 - C) La traviata
 - D) Il trovatore
 - E) Don Giovanni
10. The militant women's movement of the suffragette, a nationwide movement created to campaign for the right to vote for women, started in which country?
- A) United Kingdom
 - B) Canada
 - C) France
 - D) United States
 - E) Germany
11. The famous film *The Panisperna Boys*, set in the 1930s, is about which of the following?
- A) The story of a group of young physicists and mathematicians
 - B) The story of a group of young doctors
 - C) The story of a group of young dancers
 - D) The story of a group of young artists
 - E) The story of a group of young antifascist writers
12. The CERN is located in the suburbs of which city?
- A) Geneva
 - B) Strasburg
 - C) Zurich
 - D) Basel
 - E) Bern
13. One of the following pairings is not coherent with the others. Which?
- A) sticky – sparse
 - B) solid – reliable
 - C) opaque – dull
 - D) rigid – austere
 - E) smooth – fluid

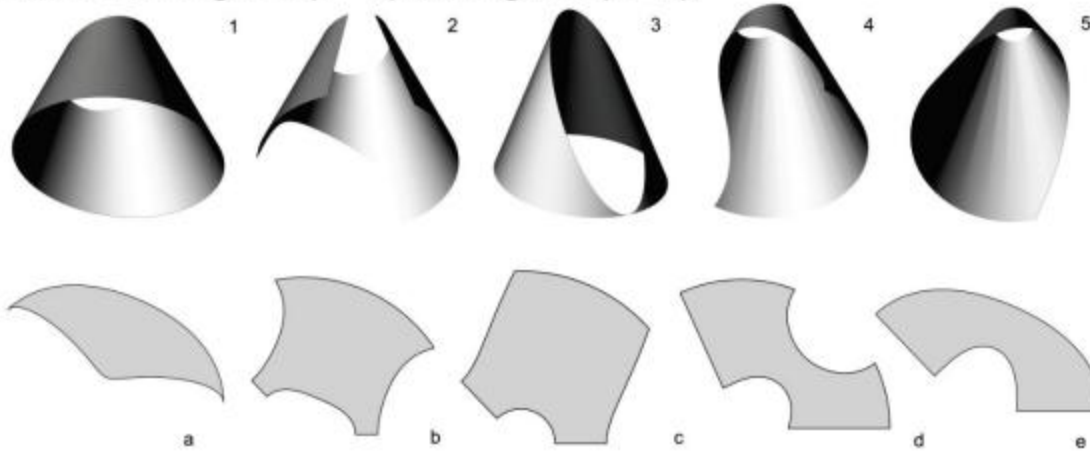


43. Which of the solid figures (1 - 5), when overturned and combined with the single figure above, will create a complete cube?



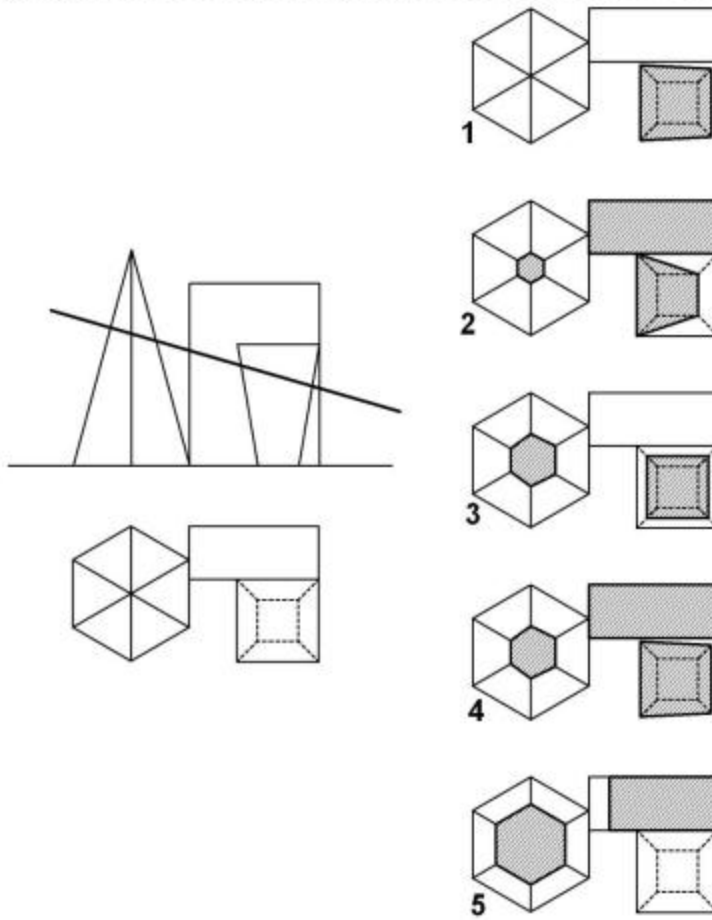
- A) 4
B) 1
C) 2
D) 3
E) 5

44. Match cone figures (1 – 5) with figures (a – e).



- A) 1-e, 2-d, 3-a, 4-b, 5-c
B) 1-a, 2-b, 3-c, 4-d, 5-e
C) 1-e, 2-d, 3-b, 4-a, 5-c
D) 1-e, 2-d, 3-a, 4-c, 5-b
E) 1-c, 2-d, 3-a, 4-b, 5-e

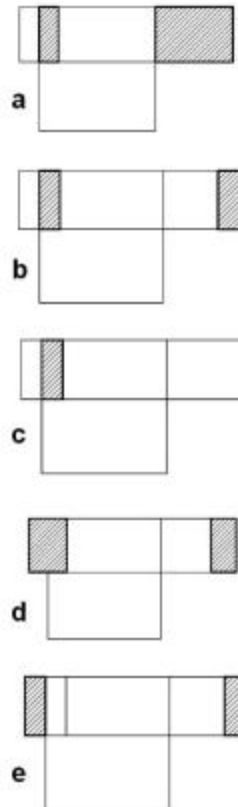
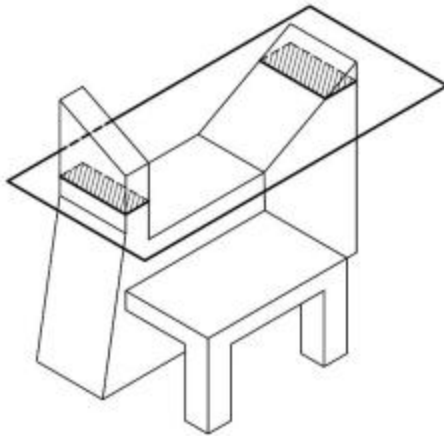
45. Observe the figure of the section plane cutting through the composition of solids shown in plan and elevation and choose the correct sectioned plan.



- A) 4
- B) 1
- C) 2
- D) 3
- E) 5

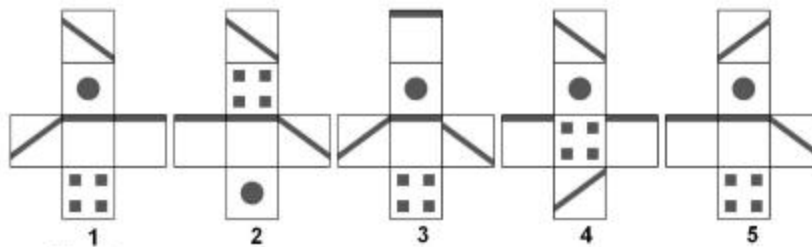


46. Observe the plane sectioning all the solids and then choose the section with the correct orthogonal projections.



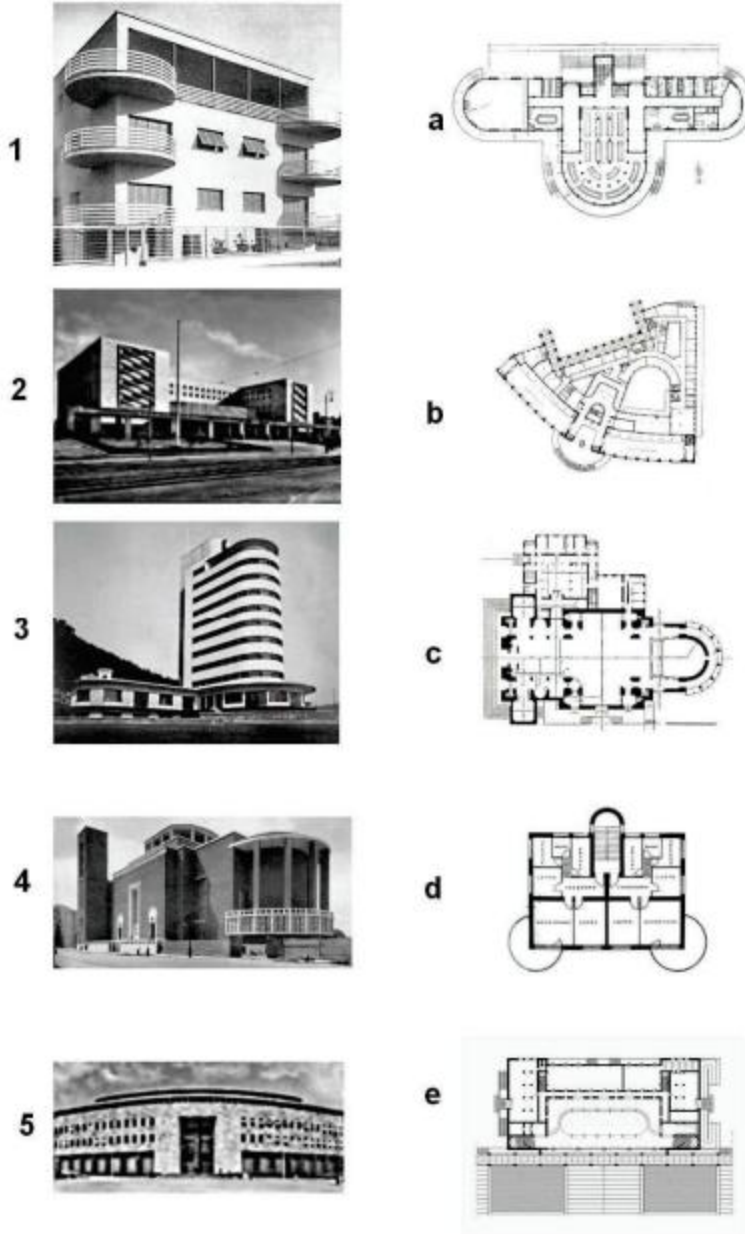
- A) b
B) a
C) c
D) d
E) e

47. Observe the two views of a cube with figures on its sides (above) and then choose the correct corresponding plan (1 – 5).



- A) 1
B) 2
C) 3
D) 4
E) 5

48. Correctly combine the photographs of buildings (1 – 5) with their corresponding plans (a – e).



- A) 1-d; 2-e; 3-a;4-c;5-b
 B) 1-a; 2-b; 3-c;4-d;5-e
 C) 1-d; 2-a; 3-e;4-b;5-c
 D) 1-e; 2-d; 3-a;4-c;5-b
 E) 1-d; 2-e; 3-a;4-b;5-c

Mathematics and Physics Test

49. On diameter $AB = 2r$ of a semicircle establish point C anywhere (but not at the extremities) and create two semicircumferences of diameters AC and CB within this semicircle. The ensuing figure, limited by the three semicircumferences, known as arbelos, was studied by Archimedes.

What is the measurement of the perimeter of the arbelos?

- A) $2\pi r$
 B) $1,5\pi r$
 C) $3\pi r$
 D) $2,5\pi r$
 E) πr