

## SAMPLE PAPER-01

## SCHOLASTIC APTITUDE TEST

1. Increase in the amount of toxic chemical in different trophic levels of a food chain is called  
(1) Bio-degradation (2) Bio-translocation  
(3) Bio-magnification (4) Bio-absorption
2. In human body which vitamin is actually formed by bacteria present in the small intestine  
(1) Vitamin A (2) Vitamin B  
(3) Vitamin C (4) Vitamin D
3. The correct sequence of the order in which cell utilizes the constituents of the protoplasm as a source of energy is  
(1) Carbohydrates, lipids, proteins  
(2) Lipids, proteins, carbohydrates  
(3) Proteins, carbohydrates, lipids  
(4) Carbohydrates, proteins, lipids
4. Apart from kidneys which of the following organs help in excretion in human body?  
(i) Lungs (ii) Stomach  
(iii) Skin (iv) Intestine  
(v) Liver  
(1) i, ii, iii, iv (2) i, ii, iii, v  
(3) i, iii, iv, v (4) ii, iii, iv, v
5. A unicellular organism having two nucleus is  
(1) Amoeba (2) Plasmodium  
(3) Trypanosoma (4) Paramecium
6. In which of these area role of bacteria is not present ?  
(1) Leather industry  
(2) Apiculture industry  
(3) Alcohol & vinegar industry  
(4) Tobacco & tea industry
7. Example of 'homologous organs' implies  
(1) wings of pigeon & arms of human  
(2) wings of pigeon & bat  
(3) wings of bat & butterfly  
(4) wings of pigeon & housefly
8. A food chain is given below  
Grass → Insect → Frog → Snake  
Which level has most energy ?  
(1) Grass (2) Insect (3) Frog (4) Snake
9. Wilting of plants is due to increase in  
(1) Photosynthesis (2) Photoperiodism  
(3) Transpiration (4) Internal pressure
10. Sequence which constitutes the reflex arc  
(1) Finger → Sensory nerve → brain → Motor nerve → Arm muscle  
(2) Finger → Sensory nerve → Spinal cord → Motor nerve → Finger muscle  
(3) Finger → Sensory nerve → Motor nerve → Finger muscle  
(4) Finger → Motor nerve → Spinal cord → Sensory nerve → Finger muscle
11. Which of these statement is true ?  
(1) Deficiency of vitamin A makes bones weak.  
(2) Deficiency of vitamin D leads to inflammation of gums.  
(3) Deficiency of iron leads to jaundice.  
(4) Deficiency of vitamin K prevents clot formation.
12. In case of injury which blood cells prevent loss of blood  
(1) RBC (2) WBC  
(3) Platelets (4) Lymphocytes
13. A plant with a genotype AaBb is crossed with a plant having the genotype aabb. The genotype of  $F_1$  would be  
(1) AaBb, AABB  
(2) aabb, aaBb  
(3) aaBB, AABb  
(4) AaBb, Aabb, aaBb, aabb.
14. Insectivorous plants eat insects to get  
(1) Chitin (2) Essential Minerals  
(3) Water (4) Cellulose
15. A farmer goes around a square farm of side 10 m in 40 s. How much is the displacement after 2 minute and 40 s ?  
(1) 0 (2) 14.14 m  
(3) 20 m (4) 10 m
16. A 50g bullet is fired from a 4 kg rifle with a velocity of 35 m/s. What is the recoil velocity of the rifle?  
(1) 8.75 m/s  
(2) 7/16 m/s  
(3) 2 m/s  
(4) The rifle is too heavy to recoil

- 17.** A body weighs 60 kg wt. on the earth. How much does it weigh on the moon? (Acceleration on the moon due to gravity is  $1/6$ th that on the earth)
- (1) no change                      (2) zero  
(3) 10 kg wt.                      (4) 360kgwt.
- 18.** A body is immersed partially or wholly in a liquid. In which direction does the force of buoyancy act?
- (1) Downwards.  
(2) Upwards.  
(3) Direction depends upon the relative density of the liquid.  
(4) Direction depends upon the nature of the body.
- 19.** An electric heater has a wattage of 1,500 W. How much electric energy does it consume in 10 hr ?
- (1) 15 kWh                      (2) 150 W  
(3) 15000 W                      (4) Data is insufficient
- 20.** A ship transmits ultra sound towards bottom of the sea. The sound returns after 3 s. Velocity of the ultra sounds in sea water is 1,500 m/s. How deep is the sea ?
- (1) 4.5 km                      (2) 0.5 km  
(3) 2.25 km                      (4) 9 km
- 21.** It is desired to form an erect and three times magnified image by using a spherical mirror of 10 cm focal length. Choose the correct option.
- (1) a concave mirror with object placed at 5 cm.  
(2) a convex mirror with object placed at 5 cm.  
(3) a concave mirror with object placed at  $40/3$  cm.  
(4) a concave mirror with object placed at  $20/3$  cm.
- 22.** If a lift is going up with acceleration, the apparent weight of a body
- (1) may be more or less than true weight.  
(2) is equal to the true weight.  
(3) is more than true weight.  
(4) is less than true weight.
- 23.** In a primary rainbow colours are arranged in a definite sequence. What is the combination of the colours at the bottom and the top ?
- (1) Red and violet                      (2) Green and yellow  
(3) Violet and red                      (4) Blue and yellow
- 24.** How much energy is expended to drive 1 C of charge through a battery of 6 V?
- (1) 1 J                      (2) 6 J  
(3)  $1/6$  J                      (4)  $(1 + 6)$  J
- 25.** Two resistors are made from same material. They have same length and area of cross section. They are first put in series and then in parallel. What is the ratio of the combined resistance ?
- (1) 1 : 2      (2) 2 : 1      (3) 1 : 4      (4) 4 : 1
- 26.** Within a current carrying long solenoid how much is the magnetic field ?
- (1) It is zero.  
(2) It decreases as one goes towards the edges.  
(3) It increases as one goes towards the edges.  
(4) It is uniform through out.
- 27.** A rectangular copper coil is rotating in a magnetic field in an a.c. generator. After how many cycles direction of current suffers a change?
- (1) one      (2) two      (3) half      (4) quarter
- 28.** Gold and Platinum are called noble metals because
- (1) these metals were discovered by Alfred Nobel.  
(2) they were costly so were in possession of kings & Nobles.  
(3) they are chemically less active.  
(4) they are found along with noble gases in nature.
- 29.** Which of the following statements is/are incorrect? Alloys are generally made:
- (1) to modify chemical activity.  
(2) to resist corrosion.  
(3) to increase the strength and toughness.  
(4) to raise the melting point.
- 30.** When Na, Fe, Cu, Al are arranged in the order of increasing reactivity with moist air, the order is
- (1) Cu, Fe, Al, Na                      (2) Na, Al, Fe, Cu  
(3) Al, Cu, Fe, Na                      (4) Al, Fe, Na, Cu
- 31.** The number of positive charges in an atom of an element is equal to the
- (1) Atomic weight of the element.  
(2) Valence electrons of the atom.  
(3) Number of neutrons in the atom.  
(4) Atomic number of the element.
- 32.** The maximum number of electrons that can be accommodated in an energy shell K, L, M and N are
- (1) 2, 8, 8, 16 respectively  
(2) 2, 8, 8, 18 respectively  
(3) 2, 8, 18, 32 respectively  
(4) None of the above

- 33.** The nature of bonding in  $\text{CCl}_4$  and  $\text{CaCl}_2$  is  
 (1) Covalent in  $\text{CCl}_4$  and electrovalent in  $\text{CaCl}_2$ .  
 (2) Electrovalent in both  $\text{CCl}_4$  &  $\text{CaCl}_2$ .  
 (3) Covalent in both  $\text{CCl}_4$  &  $\text{CaCl}_2$ .  
 (4) Electrovalent in  $\text{CCl}_4$  and covalent in  $\text{CaCl}_2$ .
- 34.** Foam type of fire extinguisher is used for extinguishing fires caused by oil. The foam produced is due to  
 (1) Aluminium sulphate  
 (2) Sodium bicarbonate  
 (3) Carbon dioxide  
 (4) Aluminium hydroxide
- 35.** When a copper coin is kept immersed in a solution of silver nitrate for some time, then  
 (1) mass of coin increases.  
 (2) mass of coin decreases.  
 (3) the solution turns colourless.  
 (4) no changes takes place.
- 36.** The oxidizing and reducing agent in the following reaction are :  

$$\text{H}_2\text{S} + \text{I}_2 \longrightarrow 2\text{HI} + \text{S}$$
 (Hydrogen (Iodine) (Hydrogen (Sulphur) Sulphide) Iodide)  
 (1)  $\text{H}_2\text{S}$  and  $\text{I}_2$  respectively  
 (2)  $\text{I}_2$  and  $\text{H}_2\text{S}$  respectively  
 (3) Insufficient data provided  
 (4) Oxidation and reduction are not taking place
- 37.** A property which progressively increases down in the group in a periodic table is  
 (1) Ionisation potential (2) Electro-negativity  
 (3) Electron affinity (4) Reducing power
- 38.** Which of the following Carbon-Carbon skeletons represent isomers ?  
 (1)  $\begin{array}{c} \text{C} \\ | \\ \text{C}-\text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$  &  $\begin{array}{c} \text{C} \\ | \\ \text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$   
 (2)  $\begin{array}{c} \text{C} \\ | \\ \text{C}-\text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$  &  $\text{C}-\text{C}-\text{C}-\text{C}$   
 (3)  $\text{C}-\text{C}-\text{C}-\text{C}$  &  $\begin{array}{c} \text{C} \\ | \\ \text{C}-\text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$   
 (4)  $\text{C}-\text{C}-\text{C}-\text{C}$  &  $\begin{array}{c} \text{C} \\ | \\ \text{C}-\text{C}-\text{C}-\text{C}-\text{C} \\ | \\ \text{C} \end{array}$
- 39.** Laughing gas is  
 (1)  $\text{NO}_2 + \text{CO}_2$  (2)  $\text{N}_2\text{O}_3$   
 (3)  $\text{N}_2\text{O}$  (4)  $\text{NO}_2$
- 40.** The IUPAC name for  $\text{CH}_3\text{CHO}$  is  
 (1) Acetaldehyde (2) Formaldehyde  
 (3) Methylaldehyde (4) Ethanal
- 41.** 200% of a number is x, what will be  $\frac{1}{2}$ % of it ?  
 (1)  $x/2$  (2)  $x/100$   
 (3)  $x/200$  (4)  $x/400$
- 42.** If  $2^{x-1} + 2^{x+1} = 320$  then the value of x is  
 (1) 6 (2) 8 (3) 5 (4) 7
- 43.** In equation  $5x - 3 = 2x + 9$ . Find the value of x.  
 (1) 3 (2) 4 (3) 2 (4) 6
- 44.** If a polynomial  $p(y) = y^4 - 3y^2 + 2y + 1$  is divided by  $y - 1$ , then what will be the remainder ?  
 (1) 1 (2) 2 (3) 3 (4) 4
- 45.**  $n(A \cup B)$  is equal to  
 (1)  $n(A) + n(B)$   
 (2)  $n(A) + n(B) - n(A \cap B)$   
 (3)  $n(A) - n(B)$   
 (4)  $n(A) + n(B) + n(A \cap B)$
- 46.** Six friends meet in a party. Each one shakes hand with each other once. The number of possible hand shakes are  
 (1) 15 (2) 21 (3) 30 (4) 120
- 47.** On selling an article for Rs. 240, trader loses 4%. In order to gain 10% he must sell the article for  
 (1) Rs. 264 (2) Rs. 273  
 (3) Rs. 275 (4) Rs. 280
- 48.** 'A' can do  $\frac{1}{3}$  of a work in 5 days and 'B' can do  $\frac{2}{5}$  of the work in 10 days. In how many days both A and B together can do the work ?  
 (1)  $7\frac{3}{4}$  (2)  $9\frac{3}{8}$  (3)  $8\frac{4}{5}$  (4) 10
- 49.** A train 700 m long is running at the speed of 72 km/hr. If it crosses a tunnel in 1 minute, then the length of the tunnel is  
 (1) 700 m (2) 600 m  
 (3) 550 m (4) 500 m
- 50.** Income of A, B and C are in the ratio 7 : 9 : 12 and their expenditure are in the ratio 8 : 9 : 15. If A saves 25% of his income then their savings are in the ratio  
 (1) 56 : 69 : 99 (2) 56 : 99 : 69  
 (3) 69 : 56 : 99 (4) 99 : 56 : 69

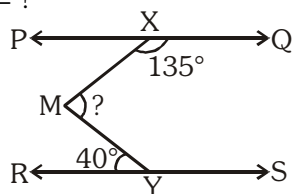
51. If 'r' is the remainder when each of the numbers 1059, 1417 and 2312 is divided by 'd', where  $d > 1$ , then  $d - r$  is equal to

- (1) 1      (2) 15      (3) 164      (4) 179

52. If  $x + 5y = 36$  and  $\frac{x+y}{x-y} = \frac{5}{3}$ , then value of x and y is

- (1) (16, 4)      (2) (4, 16)  
(3) (4, 8)      (4) (7, 12)

53.  $PQ \parallel RS$ ,  $\angle MXQ = 135^\circ$ ,  $\angle MYR = 40^\circ$ , then  $\angle XMY = ?$

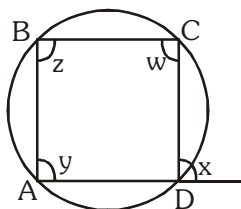


- (1)  $45^\circ$       (2)  $40^\circ$       (3)  $85^\circ$       (4)  $135^\circ$

54. Akshay gets 10% more than Sanjay, then Sanjay gets

- (1) 10% less than Akshay  
(2) 9% less than Akshay  
(3)  $9\frac{1}{11}\%$  less than Akshay  
(4) 10% more than Akshay

55. In this figure which option is true ?

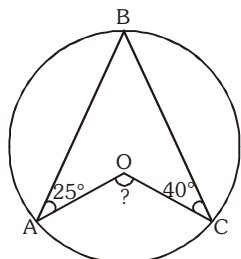


- (1)  $x = y$       (2)  $x = z$   
(3)  $x = w$       (4) All of the above

56. If  $7^{25}$  is divided by 8, then the remainder is

- (1) 1      (2) 3      (3) 5      (4) 7

57. If O is the centre of a circle and  $\angle OAB = 25^\circ$ ,  $\angle OCB = 40^\circ$  so  $\angle AOC$  will be

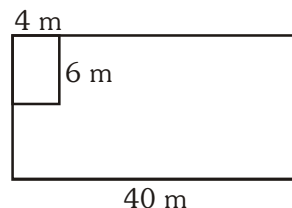


- (1)  $130^\circ$       (2)  $65^\circ$       (3)  $25^\circ$       (4)  $115^\circ$

58. A ladder 20 m long rests against a wall. If the feet of the ladder is 10 m from the wall, then angle of elevation is

- (1)  $\frac{\pi}{6}$       (2)  $\frac{\pi}{4}$       (3)  $\frac{\pi}{3}$       (4)  $\frac{\pi}{2}$

59. A rectangular wall with a length 40 m and area of its floor is  $960 \text{ m}^2$ . Carpets in the size  $6\text{m} \times 4\text{m}$  are available. Find out how many carpets are required to cover the floor of the hall.



- (1) 20      (2) 40      (3) 60      (4) 80

60. An iron ball of radius 1 cm is melted and changed into small iron shots of diameter 1 mm each. If no iron is wasted, the number of iron shots obtained is

- (1)  $10^3$       (2)  $2 \times 10^3$       (3)  $4 \times 10^3$       (4)  $20^3$

61. Gems like rubies and sapphires are associated with

- (1) Sedimentary rocks  
(2) Extrusive igneous rocks  
(3) Metamorphic rocks  
(4) Intrusive igneous rocks

62. Which of the following is incorrect ?

- (1) Cotton requires black soil  
(2) Groundnuts require clayey soil  
(3) Jute requires alluvial soil  
(4) Cashew nuts grow best in red laterite soil

63. Tidal energy is an inexpensive and inexhaustible source of energy. Which of the following places is ideally suited to harness it ?

- (1) Gulf of Kachch & Cambay  
(2) Palk strait & Gulf of Mannar  
(3) Lagoons of Kerala  
(4) None of the above

64. Radio waves transmitted from the earth into atmosphere are reflected back to the earth from :

- (1) Stratosphere      (2) Ionosphere  
(3) Mesosphere      (4) Exosphere

65. The Eastern and Western Ghats meet at :

- (1) Nilgiri Hills      (2) Annamalai Hills  
(3) Annai mudi      (4) Cardamom Hills

- 66.** Ranthambhore Wild Life Sanctuary is situated in :  
 (1) Haryana (2) Madhya Pradesh  
 (3) Uttar Pradesh (4) Rajasthan
- 67.** In India which river flows towards west ?  
 (1) Kaveri (2) Godavari  
 (3) Tapi (4) Chambal
- 68.** Which industry out of the following is not an agriculture based industry ?  
 (1) Cotton industry  
 (2) Food industry  
 (3) Paper industry  
 (4) Vegetable oil industry
- 69.** Which one of the following statements is not true ?  
 (1) Faint band of stars across the Sky-Milky way  
 (2) Group of stars-constellation  
 (3) Spinning of earth on its own axis-Revolution  
 (4) Celestial bodies that have its own heat & light - star
- 70.** Choose the important port located near Tropic of Cancer.  
 (1) Kandla in Gujarat (2) Paradip in Odisha  
 (3) Chennai port (4) None of these
- 71.** Bhilai is associated with :  
 (1) Cotton industry (2) Silk industry  
 (3) Iron & steel industry (4) Sugar industry
- 72.** Jawahar Lal Nehru proudly proclaimed \_\_\_\_\_ as the 'Temples of modern India.'  
 (1) Steel Industry (2) Forests  
 (3) Schools (4) Dams
- 73.** First railway line built in India in 1853 was from \_\_\_\_\_ to \_\_\_\_\_.  
 (1) Delhi to Agra (2) Mumbai to Thane  
 (3) Delhi to Mumbai (4) Calcutta to Delhi
- 74.** Which of the following statement is incorrect ?  
 The only Indian states bordering with these countries are :  
 (1) China - Jammu & Kashmir, H.P. and Sikkim  
 (2) Pakistan - Gujarat, Rajasthan, Punjab and Jammu & Kashmir  
 (3) Myanmar - Arunachal, Nagaland, Manipur and Mizoram  
 (4) Bangladesh - West Bengal, Assam, Meghalaya, Tripura & Mizoram

- 75.** Match the following :

Column-I		Column-II	
(i)	Prairies	(A)	North America
(ii)	Pampas	(B)	Asia
(iii)	Steppes	(C)	Australia
(iv)	Savannas	(D)	Africa
(v)	Downs	(E)	South America

- (1) i - C, ii - E, iii - B, iv - D, v - A  
 (2) i - E, ii - C, iii - B, iv - A, v - D  
 (3) i - A, ii - E, iii - B, iv - D, v - C  
 (4) i - A, ii - B, iii - C, iv - D, v - E
- 76.** Which of the following did not take part in First World War ?  
 (1) France (2) Germany  
 (3) Portugal (4) England
- 77.** The group of powers collectively known as the Axis power during Second World War :  
 (1) Germany, Italy, Japan  
 (2) Austria, Germany, Italy  
 (3) France, Japan, Italy  
 (4) Japan, Germany, Turkey
- 78.** What did the Rowlatt Act, 1919 presume ?  
 (1) Detention of political prisoners without trial  
 (2) Forced recruitment in the army  
 (3) Forced manual labour  
 (4) Equal pay for equal work
- 79.** Why is 13th April, 1919 famous in the Indian history?  
 (1) Minto-Morley reforms were passed  
 (2) Quit India resolution was passed  
 (3) Jallianwala Bagh tragedy took place  
 (4) INA was formed
- 80.** Who among of the following was not a moderate leader?  
 (1) Bipin Chandra pal  
 (2) Dadabhai naoroji  
 (3) Surendranath Banerji  
 (4) Gopal Krishan Gokhale
- 81.** Match the following :
- | Column-I |                    | Column-II |                      |
|----------|--------------------|-----------|----------------------|
| (i)      | Raja Ram Mohan Roy | (A)       | Ram Krishna Mission  |
| (ii)     | Dayanand Saraswati | (B)       | Theosophical Society |
| (iii)    | Vivekanand         | (C)       | Brahmo Samaj         |
| (iv)     | Annie Beasant      | (D)       | Arya Samaj           |
- (1) i - A, ii - D, iii - C, iv - B  
 (2) i - C, ii - D, iii - A, iv - B  
 (3) i - C, ii - A, iii - D, iv - B  
 (4) i - D, ii - C, iii - A, iv - B

- 82.** The second civil disobedience movement was started by Gandhiji with his famous.  
 (1) Bardoli Satyagrah  
 (2) Dandi March  
 (3) Slogan of 'do or die'  
 (4) Bengal Strike
- 83.** The nationalist leader who died due to injuries inflicted by the police during demonstration against Simon Commission was :  
 (1) Lala Lajpat Rai (2) Aurobindo Ghosh  
 (3) Bal Gangadhar Tilak (4) Saifuddin Kitchlew
- 84.** Monolithic pillars of Ashoka are great monuments of the :  
 (1) Mauryan age (2) Kushana regime  
 (3) Buddhist period (4) Gandhara art
- 85.** The battle that was fought between Ahmad Shah Abdali and the Marathas was :  
 (1) Second battle of Panipat  
 (2) First battle of Panipat  
 (3) Third battle of Panipat  
 (4) The battle of Tarain
- 86.** India was called 'Sapta Sindhu' during the time of :  
 (1) Guptas (2) Aryans  
 (3) Mauryas (4) Harshavardhana
- 87.** The charter of United Nations Organisations was drawn & signed by  
 (1) 51 nations (2) 41 nations  
 (3) 21 nations (4) 31 nations
- 88.** One of the distinguishing feature of Indus Valley civilization is :  
 (1) ziggurat (2) the pyramids  
 (3) sphinx (4) the great bath
- 89.** Which of them did not play key role for evolution of Non-aligned movement ?  
 (1) President of Egypt - Nasser  
 (2) British leader - Churchill  
 (3) President of Indonesia - Sukarno  
 (4) President of Yugoslavia - Tito
- 90.** Panchsheel was first discussed in :  
 (1) A public meeting addressed by Nehru at Delhi  
 (2) Bandung meet in 1955  
 (3) Agreement between India and China in 1954  
 (4) First non-aligned meet at Belgrade in 1965
- 91.** Which one of the following is not a fundamental right ?  
 (1) Right against exploitation  
 (2) Right to equality  
 (3) Right to freedom of religion  
 (4) Right to work

- 92.** Disagreement between Lok Sabha and Rajya Sabha about a bill are settled by  
 (1) The Supreme Court  
 (2) The President  
 (3) The Speaker of Lok Sabha  
 (4) The joint sitting of both houses
- 93.** Panchayati Raj comes in the  
 (1) Union List  
 (2) State List  
 (3) Concurrent List  
 (4) Residual List
- 94.** Match the following and find out the right one.

	Column-I		Column-II
(i)	Union of India	(A)	Prime Minister
(ii)	State	(B)	Sarpanch
(iii)	Municipal Corporation	(C)	Governor
(iv)	Gram Panchayat	(D)	Mayor

- (1) i - D, ii - A, iii - B, iv - C  
 (2) i - A, ii - C, iii - D, iv - B  
 (3) i - B, ii - C, iii - D, iv - A  
 (4) i - C, ii - D, iii - A, iv - B
- 95.** Indian who chaired the General Conference of UNESCO in Paris in 1952 :  
 (1) Vijay Laxmi Pandit  
 (2) Dr. Radhakrishnan  
 (3) B.N. Rao  
 (4) Justice P.N. Bhagwati
- 96.** Inflation means :  
 (1) an increase in prices of all the commodities  
 (2) an increase in the prices of services  
 (3) a decline in purchasing power  
 (4) None of the above
- 97.** Regarding right of consumer pick the odd one out.  
 (1) Right to information  
 (2) Right to choice  
 (3) Right to redressal  
 (4) Right to adulteration
- 98.** Natural products are changed into other forms through ways of manufacturing. This comes under :  
 (1) Secondary Sector (2) Tertiary Sector  
 (3) Primary Sector (4) None of the above
- 99.** A situation in which more persons are employed on a job than are optimally required, is :  
 (1) Structural unemployment  
 (2) Disguised unemployment  
 (3) Situational unemployment  
 (4) Seasonal unemployment
- 100.** In a socialistic economy all the resources are owned by :  
 (1) the society (2) the government  
 (3) the military forces (4) All of the above