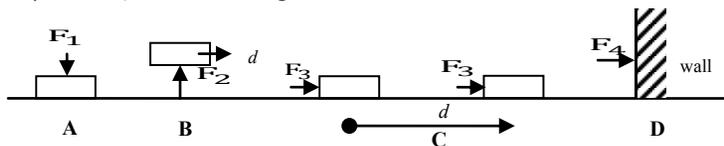


For question 5, refer to the diagram below.



Work is done by a force only if there is displacement along the direction of the force. The diagram above shows that the force  $F_1$  in **A** presses against the block. In **B**, the force  $F_2$  is vertical while the block is displaced horizontally. In **C**,  $F_3$  pushes the block to the right a distance  $d$ , and in **D**,  $F_4$  is applied against a concrete wall.

5. Work is accomplished in

- A. A                      C. C  
B. B                      D. D

ANSWERS TO THE SCIENTIFIC ABILITY QUESTIONS:

- D** In an experiment, there must be an experimental set-up and a control setup. Group A is the experimental setup and Group B is the control setup.
- D** Doing the experiment is the best way to find the effect of adding rubbing alcohol on the boiling temperature of water. The rest of the choices would not give valid conclusions.
- D** *A*, *B*, and *C* are all important precautions since not doing them may affect the rest of the experiment. Only *D* can be ignored.
- B** Based on the given observation, sound was not heard when air was pumped out of the jar; so sound does not travel in a vacuum.
- C** Based on the given definition of work, only *C* is the correct answer since force  $F_3$  displaced the block along its direction. Displacement did not take place in *A*, nor in *D*. In *B*,  $F_2$  and the displacement  $d$  are not in the same direction.

## SAMPLE TEST QUESTIONS

The PSHS National Competitive Examination consists of items designed to measure verbal aptitude, abstract reasoning, quantitative ability, and scientific aptitude. The following are sample items to familiarize the applicant with the types of items found in the test.

### VERBAL APTITUDE

- The item below consists of an underlined word, followed by four (4) choices. From the four, select the word that is closest in meaning to the word in the original sentence if it is substituted for the underlined word. Indicate your answer by shading the appropriate circle on your Answer Sheet.

The doctor placed a few drops of medicine in the patient's eyes. The medicine caused the patient's eyes to become dilated.

- A. reduced                      C. rounded  
B. enlarged                      D. irritated

- The item below consists of a related pair of words, followed by four lettered pairs of words. Select the pair that BEST expresses a relationship similar to that expressed in the original pair. Indicate your answer by shading the appropriate circle on your Answer Sheet.

MICROSCOPE : SEE :: \_\_\_\_\_ : \_\_\_\_\_

- A. amplifier : hear                      C. calculator : write  
B. song: listen                      D. camera : smile

- From the choices below, select the word that BEST completes the meaning of the sentence. Indicate your answer by shading the appropriate circle on the Answer Sheet.

The study of these animals \_\_\_\_\_ truly fascinating. Many books have been written about them.

- A. are                      B. is                      C. were                      D. have been

- Some parts of the sentence below are underlined and marked A, B, C, and D. These parts may or may not have an error. If the sentence has an error, choose the lettered part that makes it wrong. If the sentence has NO ERROR, choose E. Indicate your answer by shading the appropriate circle on the Answer Sheet.

This cactus needs much sunlight than the others. NO ERROR.

- A                      B                      C                      D                      E

5. Read the passage carefully. Then, choose from the statements below, one that is NOT directly stated but is IMPLIED. Indicate your BEST answer by shading the appropriate circle on your answer sheet.

Cholesterol, a fatty substance, is produced by almost every cell in the body, but as much as 70 percent is manufactured in the liver. It is present in many of the foods we eat. While cholesterol is necessary to produce hormones and to make nerve cells, an excessive amount often results in atherosclerosis, a condition characterized by fatty deposits that cling to the walls of blood vessels, narrowing their diameter and greatly increasing the likelihood of heart attack and stroke.

- A. High levels of cholesterol is necessarily harmful to the body.
- B. Controlling the amount of cholesterol in the body will lessen the risk of heart disease.
- C. An excessive amount of cholesterol results in atherosclerosis.
- D. Cholesterol causes the narrowing of the diameter of blood vessels

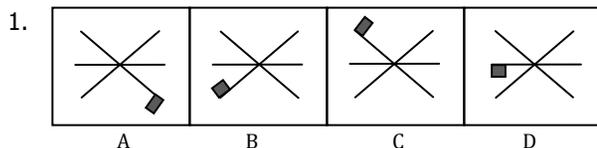
**ANSWERS TO THE VERBAL APTITUDE TEST QUESTIONS:**

1. **B** The word dilate means to make or become larger or wider. When something (like the pupil of the eyes) becomes dilated, it appears enlarged.
2. **A** A microscope magnifies to help a person see it in the same way that an amplifier magnifies sound in order to help a person hear.
3. **B** The item is one on Subject-Verb Agreement. The subject is study. It is singular. So the verb must be singular and in the simple present tense.
4. **B** The sentence is an item on degree of comparison of adjectives. When a sentence compares only two persons or things, the comparative degree is used. In the sentence, This cactus is being compared to the others, hence, the term much should be more. The term than further supports the need for the comparative degree.
5. **A** Statements C and D are directly stated in the paragraph. Statement B may be true but since the effect of cholesterol is not confined to the heart and affects the blood vessels all over the body, choice A is the BEST answer.

**ABSTRACT REASONING**

**DIRECTIONS:**

For Items 1 and 2: Choose the box that is DIFFERENT from the other three in the set. Indicate your answer by shading the appropriate circle on your Answer Sheet.



4. **C** The smallest possible difference is obtained by making the minuend as small as possible and the subtrahend as large as possible.

$$\begin{array}{r} 245 \text{ minuend} \\ - 96 \text{ subtrahend} \\ \hline \end{array}$$

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5. **B** Philippine time 9:20 pm Switzerland time is 7½ hrs. late of Philippine time.

$$\begin{array}{r} 9:20 \quad \longrightarrow \quad 8:80 \\ - 7:30 \quad \longrightarrow \quad 7:30 \\ \hline \end{array}$$

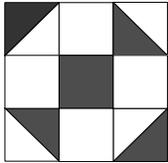
Switzerland time is 1:50 pm

**SCIENTIFIC ABILITY**

1. A new drug for the treatment of tuberculosis was being tested in a hospital. Patients in Group **A** actually received doses of the new drug; those in Group **B** were given sugar pills. Group B represents
  - A. a scientific experiment
  - B. a scientific method
  - C. the experimental setup
  - D. the control set-up
2. You want to find out what will happen to the boiling temperature of 10 ml of water if rubbing alcohol is added to it. What would be the best thing to do?
  - A. Check the boiling temperature of rubbing alcohol in a book and draw your conclusions.
  - B. Assume that there would be no effect.
  - C. Guess that rubbing alcohol would raise the boiling temperature of water.
  - D. Set up an experiment to discover the effect of rubbing alcohol on the boiling temperature of water.
3. A chemist is asked to determine whether exposure to sunlight affects the color of a liquid. Which of the following precautions could he most probably ignore?
  - A. Place one sample in a dark place.
  - B. Keep the samples covered to prevent evaporation.
  - C. Keep the temperature of the samples constant.
  - D. Pour the liquid into bottles of different shapes.
4. An electric bell rings while inside an enclosed glass jar. When the air inside the jar is pumped out, the sound becomes fainter and fainter until it is gone. On the basis of this, one can conclude that:
  - A. sound travels faster in air than in glass.
  - B. sound does not travel in a vacuum.
  - C. sound travels faster in air than in a vacuum.
  - D. Sound does not travel in glass.

### QUANTITATIVE ABILITY

- If the sum of four numbers is even, which of these statements CANNOT be true?
  - All four numbers are odd.
  - 3 numbers are odd and 1 is even.
  - 2 numbers are odd and 2 are even.
  - All four numbers are even.
- In the figure below, what is the ratio of the shaded area to the unshaded region?



- 1:4
- 2:5
- 1:3
- 1:2

- $p\%$  of  $m$  is  $n$ . If  $n$  is greater than  $m$  then
  - $p < 100$
  - $p > 100$
  - $p \geq 100$
  - $p \leq 100$
- What is the SMALLEST possible difference when each of the digits 2, 4, 5, 6, 9 is placed in exactly one of the boxes of this subtraction problem?
 

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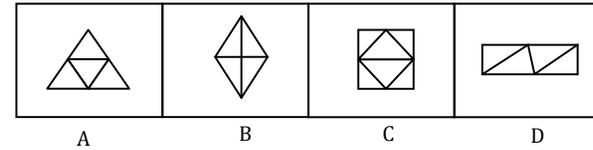
  - 58
  - 123
  - 149
  - 171
- Philippine time is  $7\frac{1}{2}$  hours ahead of Switzerland time. If it is 9:20 *p.m.* in Manila, Philippines, what time is it in Bern, Switzerland?
  - 2 *a.m.*
  - 1:50 *p.m.*
  - 7:30 *p.m.*
  - 1:50 *a.m.*

SOLUTION TO THE QUANTITATIVE ABILITY QUESTIONS:

- B** Recall, even plus even is even, odd plus odd is even; and even plus odd is odd. Hence, the sum of three odd numbers and one even number is odd.
- D** Area of the shaded region = 3 square units  
Area of the unshaded region = 6 square units  
Hence, the ratio of the shaded area to the unshaded area is  $3:6$  or  $1:2$
- B**  $p\%$  of  $m = n$ ,  $n > m$  implies  $p > 100$ .  
 $p\%$  of  $m = n$   
$$\frac{p}{100} \times m = n$$
  
$$\frac{100}{100} \times m = n. \text{ Hence, } m = n.$$

If  $p < 100$ , then  $n < m$ .  
Then  $p = 100$

2.



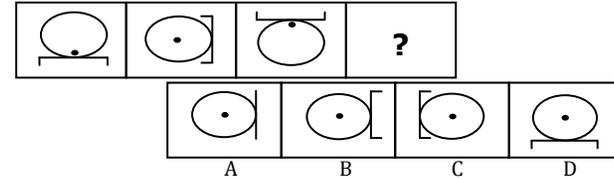
**Answer sheet**

1.  A  B  C  D  E

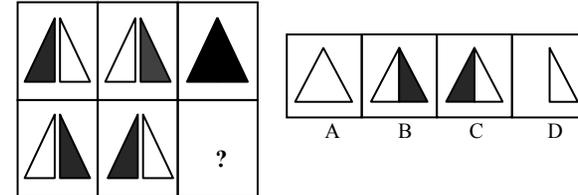
2.  A  B  C  D  E

For Items 3, 4, and 5: The boxes go together in a certain way. Find out what the relationship is from among the lettered boxes then choose the one that has the same relationship and would fit the empty box. Indicate your answer by shading the appropriate circle on your Answer Sheet.

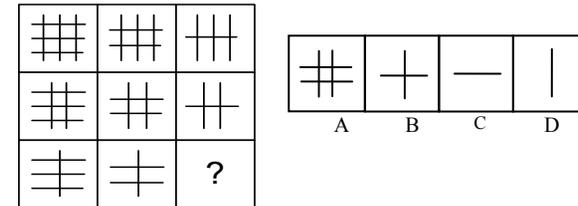
3.



4.



5.



**Answer sheet**

3.  A  B  C  D  E

4.  A  B  C  D  E

5.  A  B  C  D  E

ANSWERS TO THE ABSTRACT REASONING QUESTIONS:

- D** For item no. 1, The flags in three of the figures follow a clockwise movement except one. The figure that deviates from the rule is figure D. Thus, the answer is D.
- C** Three figures in item no. 2 contain 4 triangles each, but figure C has 6.
- C** From the choices, box C correctly fits the pattern shown by the first three boxes.
- A** In item no. 4, the figures follow a rule. When the first two figures are overlapped, the colors of the outer triangles dominate. The second set of triangles when overlapped will produce a white triangle since the outer triangles are colored white. Thus, from the choices, the box that correctly fits the empty box is box A.
- B** The figure shows a decreasing number of lines from both directions. Figure B follows the pattern.