

## SPECIMEN PAPER \_NMET UG

### Verbal Ability Component

Read the passage below and answer the question that follow:

#### Power in language

The first systems of writing developed and used by the Germanic peoples were runic alphabets. The runes functioned as letters, but they were much more than just letters in the sense in which we today understand the term. Each rune was an ideographic or pictographic symbol of some cosmological principle or power, and to write a rune was to invoke and direct the force for which it stood. Indeed, in every Germanic language, the word “rune” (from Proto-Germanic \*runo) means both “letter” and “secret” or “mystery,” and its original meaning, which likely predated the adoption of the runic alphabet, may have been simply “(hushed) message.”

Each rune had a name that hinted at the philosophical and magical significance of its visual form and the sound for which it stands, which was almost always the first sound of the rune’s name. For example, the T-rune, called \*Tiwaz in the Proto-Germanic language, is named after the god Tiwaz (known as Tyr in the Viking Age). Tiwaz was perceived to dwell within the daytime sky, and, accordingly, the visual form of the T-rune is an arrow pointed upward (which surely also hints at the god’s martial role). The T-rune was often carved as a standalone ideograph, apart from the writing of any particular word, as part of spells cast to ensure victory in battle.

The runic alphabets are called “futharks” after the first six runes (Fehu, Uruz, Thurisaz, Ansuz, Raidho, Kaunan), in much the same way that the word “alphabet” comes from the names of the first two Hebrew letters (Aleph, Beth). There are three principal futharks: the 24-character Elder Futhark, the first fully-formed runic alphabet, whose development had begun by the first century CE and had been completed before the year 400; the 16-character Younger Futhark, which began to diverge from the Elder Futhark around the beginning of the Viking Age (c. 750 CE) and eventually replaced that older alphabet in Scandinavia; and the 33-character Anglo-Saxon Futhorc, which gradually altered and added to the Elder Futhark in England. On some inscriptions, the twenty-four runes of the Elder Futhark were divided into three ættir (Old Norse, “families”) of eight runes each, but the significance of this division is unfortunately unknown.

Runes were traditionally carved onto stone, wood, bone, metal, or some similarly hard surface rather than drawn with ink and pen on parchment. This explains their sharp, angular form, which was well-suited to the medium.

Much of our current knowledge of the meanings the ancient Germanic peoples attributed to the runes comes from the three “Rune Poems,” documents from Iceland, Norway, and England that provide a short stanza about each rune in their respective futharks (the Younger Futhark is treated in the Icelandic and Norwegian Rune Poems, while the Anglo-Saxon Futhorc is discussed in the Old English Rune Poem).

While runologists argue over many of the details of the historical origins of runic writing, there is widespread agreement on a general outline. The runes are presumed to have been derived from one of the many Old Italic alphabets in use among the Mediterranean peoples of the first

century CE, who lived to the south of the Germanic tribes. Earlier Germanic sacred symbols, such as those preserved in northern European petroglyphs, were also likely influential in the development of the script.

The earliest possibly runic inscription is found on the Meldorf brooch, which was manufactured in the north of modern-day Germany around 50 CE. The inscription is highly ambiguous, however, and scholars are divided over whether its letters are runic or Roman. The earliest unambiguous runic inscriptions are found on the Vimose comb from Vimose, Denmark and the Øvre Stabu spearhead from southern Norway, both of which date to approximately 160 CE. The earliest known carving of the entire futhork, in order, is that on the Kylver stone from Gotland, Sweden, which dates to roughly 400 CE.

The transmission of writing from southern Europe to northern Europe likely took place via Germanic warbands, the dominant northern European military institution of the period, who would have encountered Italic writing firsthand during campaigns amongst their southerly neighbors. This hypothesis is supported by the association that runes have always had with the god Odin, who, in the Proto-Germanic period, under his original name \*Woðanaz, was the divine model of the human warband leader and the invisible patron of the warband's activities. The Roman historian Tacitus tells us that Odin ("Mercury" in the *interpretatio romana*) was already established as the dominant god in the pantheons of many of the Germanic tribes by the first century.

From the perspective of the ancient Germanic peoples themselves, however, the runes came from no source as mundane as an Old Italic alphabet. The runes were never "invented," but are instead eternal, pre-existent forces that Odin himself discovered by undergoing a tremendous ordeal.

1. The word "pantheon" in the passage refers to
  - a. A temple of all the gods
  - b. All the gods collectively of a religion
  - c. A monument or building commemorating a nation's dead heroes
  - d. A domed circular temple at Rome, erected a.d. 120–124 by Hadrian
2. Which of the following statements is incorrect?
  - a. Unlike the Latin alphabet, which is an essentially utilitarian script, the runes are symbols of some of the most powerful forces in the cosmos
  - b. Runic writing was probably first used in southern Europe and was carried north by Germanic tribes.
  - c. The word "rune" and its meaning was derived from the runic alphabet.
  - d. The first runic alphabets date back to the 1st century CE.
3. Which of the following can be inferred from the passage?
  - i. Runic script was most likely derived from Old Italic script
  - ii. Runes were not used so much as a simple writing system, but rather as magical signs to be used for charms.

- iii. In the Proto-Germanic period, the god Tiwaz was associated with war, victory, marriage and the diurnal sky.
- iv. The knowledge of the meanings attributed to the runes of the Younger Futhark is derived from the three Rune poems.

- a. All the above
- b. ii and iv
- c. i, ii and iv
- d. i and iii

4. **Statement:**

“You are hereby appointed as a programmer with a probation period for one year and your performance will be reviewed at the end of the period for confirmation” – A line in an appointment letter.

**Assumption:**

- I. The performance of an individual generally is not known at the time of appointment letter.
- II. Generally an individual tries to prove his worth in the probation period.

- a. Only assumption I is implicit
- b. Only assumption II is implicit
- c. Either I or II is implicit
- d. Neither I nor II is implicit
- e. Both I and II are implicit

5. Either Ram (1)/ or Bhuvan forgot (2)/ to take (3)/ their pen. (4)/ No error (5)

- a. 1
- b. 2
- c. 3
- d. 4
- e. 5

6. The four sentences (labelled 1, 2, 3 and 4) below, when properly sequenced, would yield a coherent paragraph. Decide on the proper sequencing of the order of the sentences and key in the sequence of the four numbers as your answer:

- a. Fish skin collagen has excellent thermos-stability and tensile strength making it ideal for use as bandage that adheres to the skin and adjust the body movements.
- b. Collagen, one of the main structural proteins in connective tissues in the human body, is well known for promoting cell regeneration.
- c. Fish skin swims in here as diseases and bacteria that affect fish are different from most human pathogens.
- d. The risk of introducing disease agents into other species through the use of pig and cow collagen proteins for wound healing has inhibited its broader applications in the medical field.

7. More often mothers are \_\_\_\_\_ for oddities of behavior in their offspring. \_\_\_\_\_, single mothers' children, raised even in difficult of times, are not seen showing any 'outrageous' patterns of behavior, as do those of nuclear families.

- a. appreciated, consequently

- b. berated, therefore
  - c. praised, in the same manner
  - d. blamed, interestingly enough
8. Radha said to us, "You will get your salary from your office tomorrow."
- a. Radha told us that we would get our salary from our office the next day.
  - b. Radha told us that we will get our salary from our office the next day.
  - c. Radha told us that we would get our salary from your office the next day.
  - d. Radha told us that we shall get our salary from our office the next day.
9. Choose the word/group of words which is most opposite in meaning to the word PLEASE
- a. Wrong
  - b. Annoy
  - c. Request
  - d. Satisfy
  - e. Force
10. The sentence given below is the idiomatic expression or a proverb. Select the alternatives which best describes its use in the sentence. 'When the girl wanted to stay out past midnight, her father put his foot down'.
- a. Give in to her request
  - b. Walked away disapprovingly
  - c. Obstructed her from leaving the house
  - d. Requested her to be home on time

### Logical Reasoning:

11. Two ships are sailing in the sea on the two sides of a lighthouse. The angle of elevation of the top of the lighthouse is observed from the ships are  $30^\circ$  and  $45^\circ$  respectively. If the lighthouse is 100 m high, the distance between the two ships is:
- a. 173 m
  - b. 200 m
  - c. 273 m
  - d. 300 m
12. Each problem consists of three statements. Based on the first two statements, the third statement may be true, false, or uncertain.
- I. Blueberries cost more than strawberries.
  - II. Blueberries cost less than raspberries.
  - III. Raspberries cost more than strawberries and blueberries.

If the first two statements are true, the third statement is

- a. True
- b. False
- c. Uncertain
- d. Cannot be determined

In these series, you will be looking at both the letter pattern and the number pattern. Fill the blank in the middle of the series or end of the series.

QAR, RAS, SAT, TAU, \_\_\_\_\_

- a. UAV
- b. TAS

- c. UAT
- d. TAT

13. Which word does NOT belong with the others?

- a. Inch
- b. Ounce
- c. Centimeter
- d. Yard

14. Here are some words translated from an artificial language.

*gorblflur* means fan belt

*pixngorbl* means ceiling fan

*arthtusl* means tile roof

Which word could mean "ceiling tile"?

- a. Gorbtlusl
- b. Flurgorbl
- c. Arthflur
- d. Pixnarth

15. One New York publisher has estimated that 50,000 to 60,000 people in the United States want an anthology that includes the complete works of William Shakespeare. And what accounts for this renewed interest in Shakespeare? As scholars point out, his psychological insights into both male and female characters are amazing even today. This paragraph best supports the statement that

- a. Shakespeare's characters are more interesting than fictional characters today.
- b. People even today are interested in Shakespeare's work because of the characters.
- c. Academic scholars are putting together an anthology of Shakespeare's work.
- d. New Yorkers have a renewed interest in the work of Shakespeare.

16. In each of the following questions, two statements numbered I and II are given. There may be cause and effect relationship between the two statements. These two statements may be the effect of the same cause or independent causes. These statements may be independent causes without having any relationship. Read both the statements in each question and mark your answer as

I. The prices of petrol and diesel in the domestic market have remained unchanged for the past few months.

II. The crude oil prices in the international market have gone up substantially in the last few months.

- a. Statement I is the cause and statement II is its effect
- b. Statement II is the cause and statement I is its effect
- c. Both the statements I and II are independent causes
- d. Both the statements I and II are effects of independent causes

17. Choose the word that is a necessary part of the word: harvest

- a. autumn
- b. stockpile
- c. tractor
- d. crop

18. Secretly is to openly as silently is to

- a. scarcely

- b. impolitely
  - c. noisily
  - d. quietly
19. Erin is twelve years old. For three years, she has been asking her parents for a dog. Her parents have told her that they believe a dog would not be happy in an apartment, but they have given her permission to have a bird. Erin has not yet decided what kind of bird she would like to have.
- a. Erin's parents like birds better than they like dogs.
  - b. Erin does not like birds.
  - c. Erin and her parents live in an apartment.
  - d. Erin and her parents would like to move.

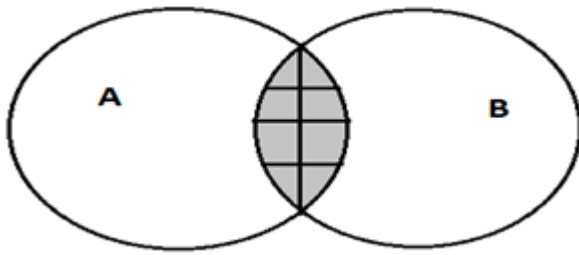
### Quantitative Aptitude Component

20. The lengths of the sides of a triangle are  $x$ , 21 and 40, where  $x$  is the shortest side. A possible value of  $x$  is
- a. 18
  - b. 19
  - c. 20
  - d. 16
21. A bag contains 50 P, 25 P and 10 P coins in the ratio 5: 9: 4, amounting to Rs. 206. Find the number of coins of each type respectively.
- a. 360, 160, 200
  - b. 160, 360, 200
  - c. 200, 360, 160
  - d. 200, 160, 300
22. Find the highest power of a prime number 2 in  $50!$ .
- a. 47
  - b. 50
  - c. 45
  - d. 42
23. Find the square root of  $4a^2 + 9b^2 + c^2 + 12ab - 6bc - 4ac$ .
- a.  $2a + b - 3c$
  - b.  $2a - 3b - c$
  - c.  $2a - 3b + c$
  - d.  $2a + 3b - c$
24. A drawer contains 12 red and 12 blue socks, all unmatched. A person takes socks out at random in the dark. How many socks must he take out to be sure that he has at least two blue socks?
- a. 18
  - b. 35
  - c. 28
  - d. 14
25. The least number of computers required to connect 10 computers to 5 routers to guarantee 5 computers can directly access 5 routers is \_\_\_\_\_
- a. 74
  - b. 104

c. 30

d. 67

26. The shaded area of figure is best described by?



a.  $A \cap B$

b.  $A \cup B$

c. A

d. B

27. The ninth term of  $1/3, 1/7, 1/11, 1/15, 1/19, \dots$  is given by?

a.  $\frac{1}{35}$

b.  $\frac{1}{36}$

c.  $\frac{1}{39}$

d. None of the mentioned

28. The sum of first n odd natural numbers is

a.  $2n-1$

b.  $N^2$

c.  $2n+1$

d. More than one of the above

e. None of the above

29. Niharika speaks truth 3 out of 4 times. she throws a die and reports that it is a six. The probability that it is actually a six will be:

a.  $3/8$

b.  $5/8$

c.  $7/8$

d.  $1/12$

e. None of the above

30. Suppose  $P(A) = 0.6$ . What is the  $P(A/B)$  if A and B are mutually exclusive?

a. 1

b. 0

c. Depends on  $P(B)$

d.  $P(A)$

e. Not enough information is given

31. If y is a function of x and  $\ln(x+y) = 2xy$ , the value of  $dy/dx$  at  $x=0$  will be:

a. 0

b. 1

c. -1

d. 2

e. None of the above

32. If the roots of a quadratic equation are  $(-3, 9)$ , the highest or the lowest value of  $y$  will be attained at  $x$  equal to
- a. 6
  - b.  $-3$
  - c. 3
  - d.  $-27$
  - e. None of the above
33. Let  $X$  and  $Y$  be two solid spheres such that the surface area of  $Y$  is 300% greater than the surface area of  $X$ . The volume of  $X$  is found to be  $\alpha\%$  lower than the volume of  $Y$ . The value of  $\alpha$  will be
- a. 92.5
  - b. 90.5
  - c. 87.5
  - d. 85.5