Sample Paper - Scholarship Test

Read the following instructions carefully

1. This is only a sample paper to give you an idea about the Bulls eye Mock CAT. All the questions are merely representative of what you may encounter in the actual test. You may or may not find all types of questions given here, represented in the actual test.

2. In the Actual Test, there will be three sections, comprising 75 questions in all. You will be given 150 minutes to solve the entire test.

3. Your proficiency will be judged across all the three sections, so divide your time judiciously among the three areas.

4. Write you name, address and other details completely in the info sheet provided at the time of the test.

5. Do your rough work on the question paper itself.

6. On the Answer Sheet, darken the oval corresponding to the best alternative for a question with a pencil. If you wish to make any change, ensure that the earlier answer is fully erased. **Use HB pencils only.**

7. Every correct answer will carry four marks each. Each incorrect answer will carry a negative marking of 1 mark each.

8. Calculators and scales are not allowed.

9. Please carry any photo identity proof to the test venue (College ID/ License). Failure to do so may disentitle you for being considered for the scholarship offer.

Bulls Eye ™

w w w . h i t b u l l s e y e . c o m

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SECTION - I

DIRECTIONS: Answer each of the following questions to the best of your ability.

1.   The length, breadth and height of a room are in the ratio 3:2:1. If the breadth and height are halved while the length is doubled, then the total area of the four walls of the room will

     1. remain the same   2. decrease by 13.64%
     3. decrease by 15%   4. decrease by 18.75%
     5. decrease by 30%

2.   A semi-circle is drawn with AB as its diameter. From C, a point on AB, a line perpendicular to AB is drawn meeting the circumference of the semi-circle at D. Given that AC = 2 cm and CD = 6 cm, the area of the semi-circle (in sq. cm) will be:

     1. 32π 2. 50π 3. 40.5π 4. 81π 5. undeterminable

3.   If $x = (16^3 + 17^3 + 18^3 + 19^3)$, then x when divided by 70 leaves a remainder of

     1. 0   2. 1   3. 69   4. 35   5. 35

4.   Two identical circles intersect so that their centres, and the points at which they intersect, form a square of side 1 cm. The area in sq. cm of the portion that is common to the two circles is

     1. $\dfrac{\pi}{4}$ 2. $\dfrac{\pi}{2}-1$ 3. $\dfrac{\pi}{5}$ 4. $\sqrt{2}-1$ 5. $\dfrac{\pi}{2}-2$

5.   Uncle Bert was making porridge in a cylindrical pan of diameter 24cm. The spoon he was using is 26 cm long. It accidentally falls and sinks into the porridge. Calculate the minimum volume of porridge necessary to hide the spoon. You may ignore the volume of the spoon.

     1. 5523.9cm^3 2. 6525.9cm^3 3. 4225.9cm^3 4. 4525.9cm^3 5. 525.9cm^3

DIRECTIONS: *Answer each of the following questions as per the best of your ability.*

6.   The digits of a three digit number A are written in the reverse order to form another three digit number B. If B > A and B – A is perfectly divisible by 7, then which of the following is necessarily true?

     1. 100 < A < 299   2. 106 < A < 305
     3. 112 < A < 311   4. 118 < A < 317
     5. 138 < A < 337

7.   If $a_1 = 1$ and $a_{n+1} - 3a_n + 2 = 4n$ for positive integer n, then a_{100} equals

     1. $3^{99} - 200$ 2. $3^{99} + 200$
     3. $3^{100} - 200$ 4. $3^{100} + 200$
     5. $3^{100} - 100$

8.   The rightmost non – zero digit of the number 30^{2720} is

     1. 5   2. 3   3. 7   4. 9   5. 1
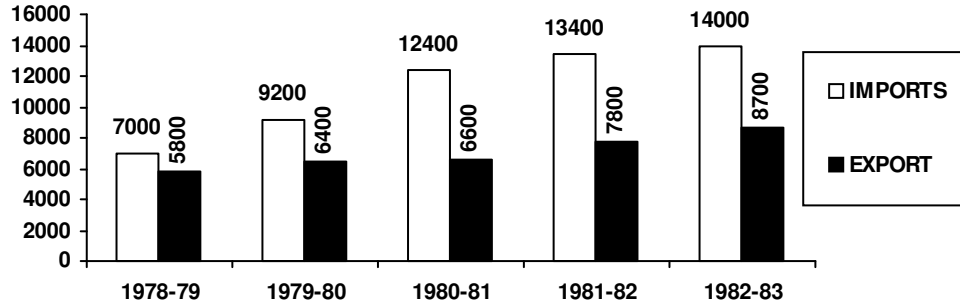
9. The sides of a triangle are in the ratio of 1/2 : 1/3 : 1/4. If the perimeter is 52 cm, the length of the smallest side is

1. 9 cm   2. 10 cm   3. 10.5 cm   4. 11 cm   5. 12 cm

10. For a positive integer n, let p_n denote the product of the digits of n, and s_n denote the sum of the digits of n. The number of integers between 10 and 1000 for which $p_n + s_n = n$ is

1. 81   2. 16   3. 18   4. 9   5. 4

11. A man sells a horse for Rs. 8,000 and loses a certain amount. Had he sold the horse for Rs. 9800, his gain would have been twice the amount of loss in the former case. The cost price of the horse is (in Rs.)

1. 8,600   2. 8,500   3. 7,200
4. 8,900   5. None of these

12. Let S be a set of positive integers such that every element n of S satisfies the conditions
a) $1000 \leq n \leq 1200$
b) Every digit in n is odd.
Then how many elements of S are divisible by 3?

1. 9   2. 10   3. 11   4. 12   5. 14

13. If $\log_y x = (a. \log_z y) = (b. \log_x z) = ab$, then which of the following pairs of values for (a, b) is not possible?

1. (-2,1/2)   2. (1, 1)   3. (0.4, 2.5)   4. $(\pi, 1/\pi)$ 5. (2, 2)

14. When you reverse the digits of the number 13, the number increases by 18. How many other two-digit numbers increases by 18 when their digits are reversed?

1. 5   2. 6   3. 7   4. 8   5. 10

15. An equilateral triangle BPC is drawn inside a square ABCD. What is the value of the angle APD in degrees?

1. 75   2. 90   3. 120   4. 135   5. 150

SECTION - II

DIRECTIONS: Read the information given for every set of questions and then answer each of the following questions to the best of your ability.

DIRECTIONS: Analyse the diagram given and answer the questions there after accordingly.

INDIA' S FOREIGN TRADE (CRORES OF RS)

16. The percentage increase in imports between 1978-79 and 1982-83 was

     1. 70%   2. 200%   3. 140%   4. 300%   5. 100%

17. The percentage change in trade gap (imports – exports) between 1981-82 and 1982-83 was approximately:

     1. increase of 10% or more   2. decrease of 5% or more
     3. decrease of less than 5%   4. 5% decrease
     5. Can't say.

18. The percentage increase in trade gap between 1979-80 and 1980-81 was approximately

     1. 230%   2. 208%   3. 108%   4. 130%   5. 100%

19. The percentage increase in exports between 1978-79 and 1982-83 was

     1. 50%   2. 35%   3. 72%   4. 80%   5. 90%

20. In how many years, the exports are greater than the average exports of the five years?

     1. 2   2. 3   3. 4   4. 1   5. Can't say

DIRECTIONS *for questions 21 to 24: Answer these questions on the basis of the information given below.*

The following table gives details regarding the total earnings of 15 employees and the number of days they have worked on complex, medium and simple operation in the month of June 2002. Even though the employees might have worked on an operation, they would be eligible for earnings only if they have minimum level of efficiency.

Emp. No	Total Earnings				Total Days			
	Complex	Medium	Simple	Total	Complex	Medium	Simple	Total
2001147	82.98		636.53	719.51	3.00	0.00	23.00	26.00
2001148	51.53		461.73	513.26	3.33	1.67	16.00	21.00
2001149	171.17		79.10	250.81	5.50	4.00	8.50	18.00
2001150	100.47		497.47	597.95	6.00	4.67	7.33	18.00
2001151	594.43	159.64		754.06	9.67	13.33	0.00	23.00
2001156	89.70			89.70	8.00	0.00	1.00	9.00
2001158	472.31	109.73		582.04	1.39	9.61	0.00	11.00
2001164	402.25	735.22	213.67	1351.14	5.27	12.07	0.67	18.00
2001170	576.57			576.57	21.00	0.00	0.00	21.00
2001171	286.48	6.10		292.57	8.38	4.25	0.38	13.00
2001172	512.10	117.46		629.56	10.00	8.50	0.350.5 0	22.00
2001173	1303.88			1303.88	25.50	0.00	0.00	26.00
2001174	1017.94			1017.94	26.00	0.00	0.00	26.00
2001179	46.56	776.19		822.75	2.00	19.00	0.00	21.00
2001180	116.40	1262.79		1379.19	5.00	19.00	0.00	24.00

21. The number of employees who have earned more than 50 rupees per day in complex operations is

   1. 4   2. 3   3. 5   4. 6   5. 7

22. The number of employees who have earned more than 600 rupees and having more than 80% attendance(there are 25 regular working days in June 2002; some might be coming on overtime too) is

   1. 4   2. 6   3. 5   4. 3   5. 7

23. The employee number of the person who has earned the maximum earnings per day in medium operation is

   1. 2001173   2. 2001164   3. 2001172   4. 2001179   5. 2001180

24. Among the employees who were engaged in complex and medium operations, the number of employees whose average earning per day in complex operations is more than average earning per day in medium operations is

   1. 2   2. 3   3. 5   4. 4   5. 1

DIRECTIONS *for questions 25 to 27: Answer these questions on the basis of the information given below.*

The table below reports annual statistics related to rice production in select states of India for a particular year.

State	Total Area (in million	% of Area Under Rice	Production (in million	Population (in millions)
Himachal Pradesh	6	20	1.2	6
Kerala	4	60	4.8	32
Rajasthan	34	20	6.8	56
Bihar	10	60	12	83
Karnataka	19	50	19	53
Haryana	4	80	19.2	21
West Bengal	9	80	21.6	80
Gujarat	20	60	24	51
Punjab	5	80	24	24
Madhya Pradesh	31	40	24.8	60
Tamil Nadu	13	70	27.3	62
Maharashtra	31	50	48	97
Uttar Pradesh	24	70	67.2	166
Andhra Pradesh	28	80	112	76

25. Which two states account for the highest productivity of rice (tons produced per hectare of rice cultivation)?

1. Haryana and Punjab   2. Punjab and Andhra Pradesh
3. Andhra Pradesh and Haryana   4. Uttar Pradesh and Haryana
5. Haryana and Maharashtra

26. How many states have a per capita production of rice (defined as total rice production divided by its population) greater than Gujarat?

1. 3   2. 4   3. 5   4. 6   5. 4

27. An intensive rice producing state is defined as one whose annual rice production per million of population is at least 400,000 tons. How many states are intensive rice producing states?

1. 5   2. 6   3. 7   4. 8   5. 11

DIRECTIONS *for questions 28 to 30: Answer these questions on the basis of the information given below.*

The Dean's office recently scanned students' results into the central computer system. When their character reading software cannot read something, it leaves that space blank. The scanner output reads as follows:

Name	Finance	Marketing	Statistics	Strategy	Operations	GPA
Aparna		B	F			1.4
Bikas	D	D	F	F		
Chandra		D	A	F	F	2.4
Deepak	A	B		D	D	3.2
Fazal	D	F	B		D	2.4
Gowri	C	C	A		B	3.8
Hari		B	A		D	2.8
Ismet			B		A	
Jagdeep	A	A	B		C	3.8
Kunal	F		A	F	F	1.8
Leena	B	A		B	F	3.2
Manab			A	B	B	
Nisha	A	D	B	A	F	3.6
Osman	C		B	B	A	4.6
Preeti	F	D		D		3.2
Rahul	A	C	A		F	4.2
Sameer		C	F	B		
Tara	B					2.4
Utkarsh			F	C	A	3.0
Vipul	A		C	C	F	2.4

In the grading system, A, B, C, D, and F grades fetch 6, 4, 3, 2, and 0 grade respectively. The Grade Point Average (GPA) is the arithmetic mean of the grade points obtained in the five subjects. For example Nisha's GPA is (6 + 2 + 4 + 6 + 0)/5 = 3.6.
Some additional facts are also known about the student's grades. These are
(a) Vipul obtained the same grade in Marketing as Aparna obtained in Finance and Strategy.
(b) Fazal obtained the same grade in Strategy as Utkarsh did in Marketing.
(c) Tara received the same grade in exactly three courses.

28.   What grade did Preeti obtain in Statistics?

1. A   2. B   3. C   4. D   5. F

29.   What grade did Utkarsh obtain in Finance?

1. A   2. B   3. C   4. D   5. F

30.   In Strategy, Gowri's grade point was higher than that obtained by

1. Fazal   2. Hari   3. Nisha   4. Rahul   5. Can't say

<div align="center">**SECTION - III**</div>

DIRECTIONS *for questions 31 to 34*: The passage given below is followed by a set of questions each. Choose the <u>most appropriate</u> answer to each question on the basis of what is written/ or implied therein.

<div align="center"># PASSAGE - A</div>

Telepathy, or the supposed communication between two minds by extrasensory means, has long been held in healthy contempt by mainstream scientists. Ironically though, these same people are now conducting a revolutionary experiment in London which, if it succeeds, will sneakily usher in the voodoo phenomenon through the backdoor and make it potentially available off the shelf to anyone in the world. That's called progress by hindsight.

It is quite simple what they plan to do actually. Surgeons at Stoke Mandeville Hospital are implanting a computerized electrode in the arm of a British professor and his wife to see if they can communicate with each other using just thought alone. For instance, if the man wants to move his index finger, then the electrode which is connected to his nerve fibres would pick up the nerve signals, convert it to radio waves, and transmit it to an external computer. This computer would then immediately re-transmit it to the implant in his wife's arm. Meaning when the professor wishes to move his index finger his brain would also be able to move his wife's index finger.

The experiment is being touted as something that may one day lead to a new treatment for paralysis victims but can anyone really be fooled that the good doctors are, in the process, also hooking up two brains? For instance, emotions like excitement and anger, which also stimulate nerve activity, could be as easily transferred from one individual to another independent of speech, body language or any of the other recognized channels of sense. "Gee, that makes me mad," thinks the professor and "Uh oh," goes his wife instantly, "he has blown a fuse".

Is this going to lead to a world in the future where everybody's nervous systems are interconnected or what? In fact, that's always been one of the philosophical problems with telepathy – we may be able to empathize with a near and dear one instantaneously but what happens to individual privacy when our innermost thoughts are thrown open to the public at large? How do you plan a battle strategy, a hostile company takeover or a defence argument in court?

31.   The author's plan of action consists of

1. Presenting a theory followed by empirical data to support it.
2. Introducing a new idea and supporting it with multiple sources.
3. Defining a phenomenon, talking about a new experiment to verify it and asking some relevant questions.
4. Comparing two rival theories regarding telepathy and deciding which one is a better option
5. Describing telepathy, explaining an experiment and arguing that telepathy would indeed invade an individual's privacy.

32.   The author could have given which of the following titles to this passage?

1. Telepathy: Nothing New About It   2. Telepathy In Modern Science
3. New Research In Telepathy   4. New Psychological Research
5. Telepathy And Its Place In neurological sciences

33.   What has been the scientists' stand on telepathy so far?

1. They have been indifferent to it
2. They have scoffed at it
3. They have been willing to accept it
4. The passage does not say any thing in his regard.
5. They secretly admire it.

34.   This passage could **not** have been a part of

    1. An old psychology text book   2. A newspaper's Sunday supplement
    3. A current affairs magazine   4. A psychology research journal
    5. A seminar on alternative medicine

DIRECTIONS *for questions 35 to 36*: Each of the following questions has a paragraph from which the last sentence has been deleted. From the given options, chose the one that completes the paragraph in the most <u>appropriate</u> way.

35.   Age has a curvilinear relationship with the exploitation of opportunity. Initially, age will increase the likelihood that a person will exploit an entrepreneurial opportunity because people gather much of the knowledge necessary to exploit opportunities over the course of their lives, and because age provides credibility in transmitting that information to others. However, as people become older, their willingness to bear risks declines, their opportunity costs rise, and they become less receptive to new information. _____

    1. As a result, people transmit more information rather than experiment with new ideas as they reach an advanced age.
    2. As a result, people are reluctant to experiment with new ideas as they reach an advanced age.
    3. As a result, only people with lower opportunity costs exploit opportunity when they reach an advanced age.
    4. As a result, people become reluctant to exploit entrepreneurial opportunities when they reach an advanced age.
    5. As a result, people depend on credibility rather than on novelty as they reach an advanced age.

36.   Most firms consider expert individuals to be too elitist, temperamental, egoist, and difficult to work with. Force such people to collaborate on a high-stakes project and they might come to blows. Even the very idea of managing such a group seems unthinkable. So most organizations adopt the default option, setting up project teams of people, who get along nicely. _____

    1. The result, however, is disastrous.
    2. The result is mediocrity.
    3. The result is creation of experts who then become elitists.
    4. Naturally they drive innovations.
    5. The result, therefore, is nothing but the best.

DIRECTIONS *for questions 37 to 38*: Each of the following questions has a paragraph with one italicized word that does not make sense. Choose the most <u>appropriate</u> replacement for that word from the options below the paragraph.

37.   Intelligent design derives from an early 19th-century explanation of the natural world given by an English clergyman, William Paley. Paley was the popularizer of the famous watchmaker analogy. Proponents of intelligent design are *crupping* Paley's argument with a new gloss from molecular biology.

    1. destroying   2. testing
    3. resurrecting   4. questioning
    5. recapitulating

38.   It is *klang* to a sensitive traveller who walks through this great town, when he sees the streets, the roads, and cabin doors crowded with beggars, mostly women, followed by three, four, or six children, all in rags and troubling every passenger for alms.

    1. amusing   2. irritating
    3. disgusting   4. distressing   5. irksome

DIRECTIONS *for question 39:* In the following question, there are four sentences. Each sentence has pairs of words/phrases that are italicized and highlighted. From the italicized and highlighted word(s)/phrase(s), select the most appropriate word(s)/phrase(s) to form correct sentences. Then, from the options given, choose the best one.

39.   1. To alleviate the economic status of the poor in India, the ***discriminatory*** **[A]** / ***discriminating*** **[B]** policies in respect of the rural poor have to undergo massive change.

    2. Even if you look at the ***converse*** **[A]** / ***obverse*** **[B]** side of the currency note, the colour is hardly affected

    3. The 20% ***mark up*** **[A]** / ***mark off*** **[B]** by the hotel has resulted in improved ***occupation*** **[A]** / ***occupancy*** **[B]** rate during the current fiscal.

    4. The electoral die has been ***cast*** **[A]** / ***caste*** **[B]** now, with the middle class living having been eased by Chidambaram's box of fiscal gifts.

    1. ABABA   2. BBABA   3. ABBBB   4. BBBBA   5. ABBBA

DIRECTIONS *for questions 40 to 41***:** In each of the following cases, parts of a sentence are left blank. Below the sentence, five different ways of completing the sentence are indicated. Choose the set that completes the sentence as a whole most meaningfully.

40.   A widespread and inclusive progress may have _____ India for the greater part of its post-colonial history, but, disempowered as they are, the Indian people cannot long be _____ into mistaking the cloud of poison for the pot of nectar.

    1. evaded .... forced   2. affected .... fooled
    3. fraught .... blamed   4. alluded .... deluged
    5. eluded .... deluded

41.   Free trade is made out to involve competition on a level playing field - but when the strong play the weak on a level playing field, the result is _____.

    1. unbelievable   2. a foregone conclusion
    3. even development   4. an impartial judgment
    5. unforgivable

DIRECTIONS *for questions 42 to 43***:** The question below has a set of four sequentially ordered statements. Each statement can be classified as one of the following:

- <u>Facts</u>, which deal with pieces of information that one has heard, seen or read, and which are open to discovery or verification (the answer option indicates such a statement with an 'F').

- <u>Inferences</u>, which are conclusions drawn about the unknown, on the basis of the known (the answer option indicates such a statement with an 'I').

- <u>Judgements</u>, which are opinions that imply approval or disapproval of persons, objects, situations and occurrences in the past, the present or the future (the answer option indicates such a statement with a 'J').

<u>Select the answer option that best describes the set of four statements.</u>

42.

1. According to all statistical indications, the Sarva Shiksha Abhiyan has managed to keep pace with its ambitious goals.
2. The Mid-day Meal Scheme has been a significant incentive for the poor to send their little ones to school, thus establishing the vital link between healthy bodies and healthy minds.
3. Only about 13 million children in the age group of 6 to 14 years are out of school.
4. The goal of universalisation of elementary education has to be a pre-requisite for the evolution and development of our country.

1. IIFJ   2. JIIJ
3. IJFJ   4. IJFI   5. JIFI

43.

1. Given the poor quality of service in the public sector, the HIV/AIDS affected should be switching to private initiatives that supply anti-retroviral drugs (ARVs) at a low cost.
2. The government has been supplying free drugs since 2004, and 35000 have benefited up to now – though the size of the affected population is 150 times this number.
3. The recent initiatives of networks and companies like AIDSCare Network, Emcure, Reliance-Cipla-CII, would lead to availability of much-needed drugs to a larger number of affected people.
4. But how ironic it is that we should face a perennial shortage of drugs when India is one of the world's largest suppliers of generic drugs to the developing world.

1. JFIJ   2. JIIJ
3. IFIJ   4. IFFJ   5. JFII

DIRECTIONS *for questions 44 to 45:* Each of the following questions consists of a sentence, with some parts of it underlined, which could be erroneous. From among the choices given, you have to select an answer that is the best possible replacement for the underlined part of the key sentence. While choosing the right answer, please pay particular attention to the syntax, idiom, usage and economy of words being used.

44.   A Labor Department study states that the <u>numbers of women employed outside the home grew by more than a thirty-five percent increase</u> in the past decade and accounted for more than sixty-two percent of the total growth in the civilian work force.

1. numbers of women employed outside the home grew by more than a thirty-five percent increase
2. numbers of women employed outside the home grew more than thirty-five percent
3. numbers of women employed outside the home were raised by more than thirty-five percent
4. number of women employed outside the home increased by more than thirty-five percent
5. number of women employed outside the home was raised by more than a thirty-five percent increase

45. A new phenomena, which is visible at Managua's major intersections, are waves of vendors and beggars, which include many children and mob cars at the stoplights.

1. A new phenomena, which is visible at Managua's major intersections, are waves of vendors and beggars, which include many children and

2. Visible at Managua's major intersections are waves of vendors and beggars with many children, new phenomena that

3. A new phenomenon visible at Managua's major intersections is waves of vendors and beggars, many of them children, who

4. Phenomenally new waves of vendors, beggars, and many children are visible at Managua's major intersections, which

5. A wave of vendors and beggars, many of whom are children, are visible at Managua's major intersections, where they are a new phenomenon and

Answer Key To Sample Test

1.	5	11.	1	21.	3	31.	3	41.	2
2.	2	12.	1	22.	5	32.	3	42.	3
3.	1	13.	5	23.	5	33.	1	43.	1
4.	2	14.	2	24.	1	34.	2	44.	4
5.	4	15.	5	25.	1	35.	4	45.	3
6.	2	16.	5	26.	2	36.	2		
7.	3	17.	2	27.	4	37.	3		
8.	5	18.	3	28.	1	38.	3		
9.	5	19.	1	29.	4	39.	5		
10.	4	20.	1	30.	2	40.	5		