MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY BATHINDA (Pb) - 151001

(State Univ. Estb by Punjab Govt. Act No. 5 (2015) and Approved u/s 2(f) & 12(B) of the UGC Act of 1956)

	RESEARCH METHODOLOGY/LOGICAL/ANALYTICAL/LANGUAGE APTITUDE
	(Common to All Disciplines)
	Ph.D. ENTRANCE TEST (PET-2022)
	Roll No. .... , Date: .... Signature of the Candidate: ....

Q 1. Given IQ scores are approximately normally distributed with a mean of 100 and standard deviation of 15, the proportion of people with IQs above 130 is:

(A) 95 % (B) 68 %

(C) 5 % (D) 2.5 %

Q 2. A statistic is:

(A) a sample characteristic (B) a population characteristic

(C) unknown (D) normally distributed

Q 3. Which of the following can help decrease sampling error?

(A) Process of analysis (B) Increase in sample size

(C) Decrease in sample size (D) Process of randomization

Q 4. The histogram shown represents the lifespan of a random sample of a particular type of insect. Determine the relationship between the mean and median.

(A) mean = median

(B) mean $\approx$ median

(C) mean < median

(D) mean > median
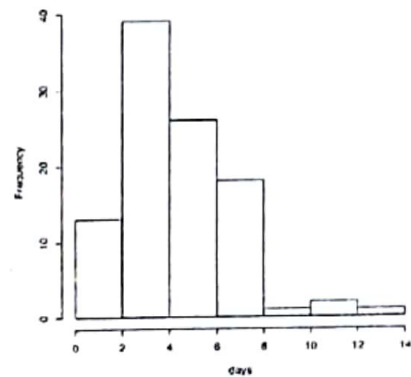
Q 5. Which of the following would indicate that a dataset is not bell-shaped?

(A) The range is equal to 5 standard deviations. (B) The range is larger than the interquartile range.

(C) The mean is much smaller than the median. (D) There are no outliers.

Q 6. Our teacher teaches mathematics .... science.

(A) across (B) besides

(C) beside (D) both

Q 7. God has been distributing wisdom among people .... many years.

(A) since (B) for

(C) from (D) so

Q 8. In academic writing, square brackets [ ] are used:

(A) to qualify statements. (B) to add minor comments.

(C) to make insertions in quotations. (D) to indicate deleted material.

Q 9. Ideally, the research participant's identity is not known to the researcher. This is called:

(A) anonymity (B) confidentiality

(C) deception (D) desensitizing

Q 10. In your research paper, you must include your research question:

(A) in your introduction. (B) in your thesis statement.

(C) in the first sentence of your introduction. (D) in the last sentence of your introduction.

Q 11. Responsibility of each individual scientist to seek knowledge and to strive to improve the quality of life of others comes under:

(A) Professional responsibility (B) Ethical responsibility

(C) Legal responsibility (D) None of these

Q 12. Ram and Sham start simultaneously from 9 O'clock and 6 O'clock with same speed. In clockwise and anti-clockwise direction respectively. Where will be Ram and Sham after walking for 15 minutes?

(A) North & East (B) South & North (C) East & West (D) East& North

Q 13. Asha is going Northwards, She turns right, Moves some distance and again turns to her right. After moving some distance she turns to her left, goes forward and again turns to her left, Now In which direction is Asha going.

(A) North　　　　　(B) South-West　　　　(C) South　　　　　(D) West

Q 14. At what time between 4:00 P.M & 5:00 P.M. hands of clock will coincide?

(A) $4 : 21 \frac{7}{11}$ P.M.　　(B) $4 : 21 \frac{8}{11}$ P.M.　　(C) $4 : 21 \frac{9}{11}$ P.M.　　(D) $4 : 21 \frac{10}{11}$ P.M.

Directions (Q 15-Q 18): A solid cube of each side 8 cm, has been painted Red, Blue and Black on pairs of opposite faces. It is than cut into cubical blocks of each side 2 cm.

Q 15. How many cubes have only two faces painted?

(A) 8　　　　　(B) 16　　　　　(C) 20　　　　　(D) 24

Q 16. How many cubes have two faces painted red and black and all other faces unpainted?
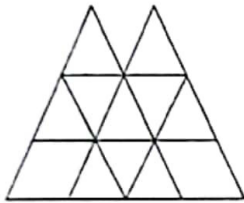
(A) 4　　　　　(B) 8　　　　　(C) 16　　　　　(D) 32

Q 17. How many cubes have only one face painted red and all other faces unpainted?

(A) 4　　　　　(B) 8　　　　　(C) 12　　　　　(D) 16

Q 18. How many cubes have two faces painted black?

(A) 2　　　　　(B) 4　　　　　(C) 8　　　　　(D) None

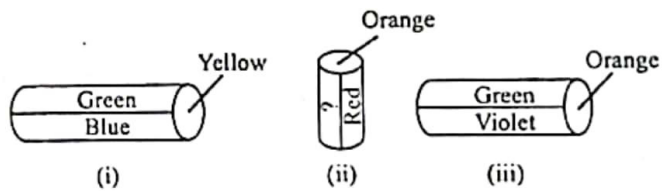Q 19. Count the parallelograms in the given figure:


(A) 23　　　　　(B) 22　　　　　(C) 21　　　　　(D) 18

Q 20. A cylinder is painted in 6 colours: green, blue, yellow, violet, red and orange. Three positions are shown below:
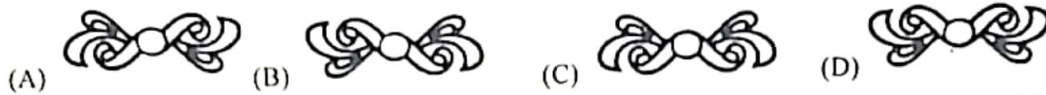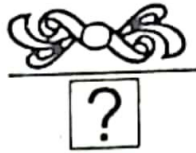
What is the colour in the empty space?

(A) Blue　　　　　(B) Green

(C) Violet　　　　(D) Yellow

Q 21. A square/circular paper has been folded as shown with the dotted lines in the given figures. The last figure (Z) shows how the paper has been cut. How would the paper look like when unfolded?

(A)　　　　　(B)　　　　　(C)　　　　　(D)
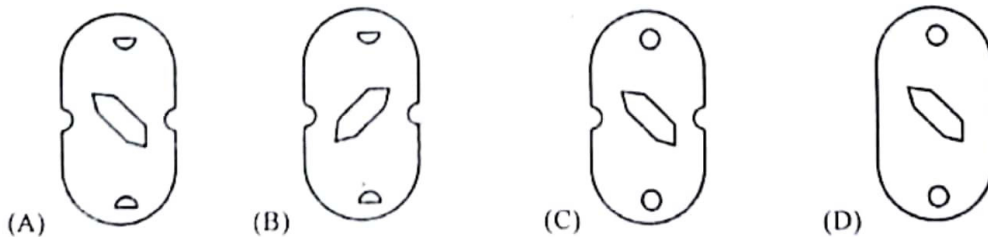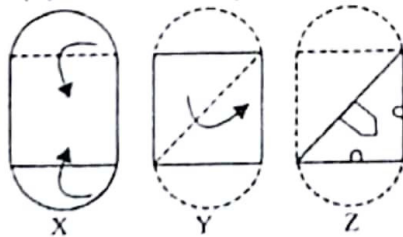
Q 22. Find the water image of given figure:

(A)   (B)   (C)   (D)

Q 23. Abhijot walks 6km to the west then he turns to his right and moves 8 km then he turns to his left and moves 9 km then turns to right and moves 12 km. Now in which direction is he from his starting point and how far?

(A) 15NE   (B) 35 NE   (C) 25 NW   (D) 45 SE

Q 24. If blue is called red, red is called green, green is called black, and black is called white, what is the colour of grass?

(A) Red   (B) Black   (C) White   (D) Green

Q 25. Which figure represents Rhombus, Quadrilaterals, Polygons?

(A)   (B)   (C)   (D)
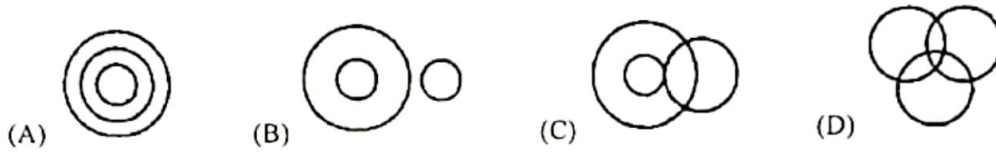
Q 26. It was 9:35 am by Sachin's watch, which kept correct time, when Abhinoor informed him that the last bus left the bus stop at 9:25 am Abhinoor's watch is 5 minute fast. The frequency of the bus is every 20 minutes. For how long must Sachin wait to catch the next bus?

(A) 15 minutes   (B) 10 minutes   (C) 25 minutes   (D) 5 minutes

Q 27. 2, 5, 26, 677, ...

(A) 17803   (B) 13576   (C) 458329   (D) 458330

Q 28. In a certain code, '247' means 'spread red carpet'; '236'means 'dust one carpet' and '234'means 'one red carpet'. Which digit in that code means 'dust'?

(A) 2   (B) 3   (C) 5   (D) 6

Q 29. Which will be that next leap year after 2020?

(A) 2026   (B) 2029   (C) 2103   (D) 2024

Q 30. A man is facing North-West. He turns 90 in the clockwise direction and then 135° in the anticlockwise direction. Which direction is he facing now?

(A) West   (B) North   (C) South   (D) East

Q 31. A's mother is the only daughter of B's father. How is B's husband related to A?

(A) Uncle   (B) Brother   (C) Father   (D) Grandfather

Q 32. A is brother of B. B is the son of C. D is C's father then what is A of D?

(A) Brother   (B) Son   (C) Grandson   (D) Grandfather

Q 33. A is B's wife and C is A's sister. D is the father of C, while E is D's son. What is the relation of E to B?

(A) Brother   (B) Brother-in-law   (C) Cousin   (D) Father-in-law

Q 34. Pointing to Manju in the photograph, Rajesh said, "She is the daughter of my grandfather's only son". How is Manju related to Rajesh?

(A) Sister   (B) Brother-in-law   (C) Son   (D) Mother

Q 35. Arrange the given words in the alphabetical order and choose the word that comes in the second place.

(A) Reserve   (B) Real   (C) Rest   (D) Repeat

Directions (Q 36 to Q 40): Study the following information and answer the questions that follow: In a knockout cricket tournament team, A is beaten by team B. Team C beats A. Team C is beaten by team B and team D. Team A and Team B are beaten by Team D.

Q 36. How many games did team C win?

(A) 1   (B) 2   (C) 3   (D) 4

Q 37. How many games did team B win?

(A) 1   (B) 2   (C) 3   (D) 0

Q 38. Which team is the champion?

(A) Team A   (B) Team B   (C) Team C   (D) Team D

Q 39. Which team did not win any match?

(A) Team A   (B) Team B   (C) Team C   (D) None of these

Q 40. In all how many matches were played?

(A) 4   (B) 5   (C) 6   (D) 10

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Answer Key:

Q. 1: (D)	Q. 11: (B)	Q. 21: (C)	Q. 31: (C)
Q. 2: (A)	Q. 12: (A)	Q. 22: (A)	Q. 32: (C)
Q. 3: (B)	Q. 13: (A)	Q. 23: (C)	Q. 33: (B)
Q. 4: (D)	Q. 14: (C)	Q. 24: (B)	Q. 34: (A)
Q. 5: (C)	Q. 15: (D)	Q. 25: (A)	Q. 35: (D)
Q. 6: (B)	Q. 16: (B)	Q. 26: (D)	Q. 36: (A)
Q. 7: (B)	Q. 17: (B)	Q. 27: (D)	Q. 37: (B)
Q. 8: (B)	Q. 18: (D)	Q. 28: (D)	Q. 38: (D)
Q. 9: (A)	Q. 19: (A)	Q. 29: (D)	Q. 39: (A)
Q. 10: (A)	Q. 20: (C)	Q. 30: (A)	Q. 40: (C)