# FCI Grade-3 Question Paper

## PART - (a)

#### GENERAL INTELLIGENCE

Directions: In Question Nos. 1 to 9 se	elect
the related word/letters/number f	from
the given alternatives.	

- Student: Book:: Postman:?
  - (A) Delivery
- (B) Bicycle
- (C) Uniform
- (D) Mail
- Illiteracy: Education:: Drought:? 2.
  - (A) Well
- (B) Rain
- (C) Dam
- (D) River
- Carpenter: Furniture::?
  - (A) Book: Author
  - Magazine: Editor
  - (C) Cook: Soup
  - (D) Dam : Engineer
- LOM: NMK:: PKI:?
  - (A) RIH
- SHG (B)
- (C) RIG
- RHG
- JTIS: HRGQ:: FPEO:?
  - (A) DNCM
- (B) DCNQ
- (C) CNDM
- (D) CNDQ
- BAD: CBE::?:IVSU
  - (A) GOOD
- (B) HSPR
- (C) HALT
- (D) HURT
- 5:30::8:?
  - (A) 14
- 50. (B)
- 69 (C)
- (D)

- 12:30::20:?
  - (A) 48
- (B) 32
- (C) 35
- (D) 42
- 3:28::5:?
  - (A) 179
- (B) 126
- (C) 124
- (D) 125

Directions: In Question Nos. 10 to 18 select the one which is different from the other three responses.

- (A) Cement
- (B) Glue
- Gum
- (D) Lock
- (A) Biography
- (B) Photography
- (C) Liniugiaphy (D)
- Melography
- - Coal Engine Petrol – Car (B)
  - Smoke Fire (D) (C)
- Oil Lamp
- 13. (A) 23

12. (A)

- **(B)** 25
- (C) 19
- (D) 17
- 14. (A) 6121
- (C) 1036
- (B) 7364
- (D) 2710
- (A) 21 - 98
- 45 210**(B)**
- 7 29(C)
- (D) 27 - 126
- (A) **EBD**

- IFH (B)
- QNO
- YVX (D)

(A)	BQCR	(B)	DSET	Dire	cti
(C)	FUGV	(D)	HWIY		C
		(T)	2022		g
		, ,		22	
(C)	AOIU	(D)	OIAE	23.	A
					(.
	-		·		(
	_		•		
	_		_	24.	A
WOI	is in ascending	Gruci	•		(
1.	Child	2.	Profession		(
3.					•
	_				_
		(B)	2, 1, 4, 3, 5	25.	3
		, ,			(
(0)	., ., ., _, .	(~)	0, 1, 2, 0, 2		(
1.	Plastering	2.	Painting		
3.	_		Walls	26.	2
					(
	(C) (A) (C) ctions which be a word  1. 3. 5. (A) (C)	(C) FUGV  (A) AEIU (C) AOIU  ctions: In Questi which one of the gibe a meaningful or words in ascending  1. Child 3. Marriage 5. Education (A) 1, 3, 5, 2, 4 (C) 4, 1, 5, 2, 3  1. Plastering 3. Foundation	(C) FUGV (D)  (A) AEIU (B) (C) AOIU (D)  ctions: In Question No which one of the given rebe a meaningful order of words in ascending order  1. Child 2. 3. Marriage 4. 5. Education (A) 1, 3, 5, 2, 4 (B) (C) 4, 1, 5, 2, 3 (D)  1. Plastering 2. 3. Foundation 4.	(C) FUGV (D) HWIY  (A) AEIU (B) BCDF (C) AOIU (D) OIAE  ctions: In Question Nos. 19 and 20, which one of the given responses would be a meaningful order of the following words in ascending order?  1. Child 2. Profession 3. Marriage 4. Infant 5. Education (A) 1, 3, 5, 2, 4 (B) 2, 1, 4, 3, 5 (C) 4, 1, 5, 2, 3 (D) 5, 4, 1, 3, 2  1. Plastering 2. Painting 3. Foundation 4. Walls	(C) FUGV (D) HWIY  (A) AEIU (B) BCDF (C) AOIU (D) OIAE  23.  23.  24.  1. Child 2. Profession words in ascending order?  1. Child 2. Profession Amarriage 4. Infant 5. Education (A) 1, 3, 5, 2, 4 (B) 2, 1, 4, 3, 5 (C) 4, 1, 5, 2, 3 (D) 5, 4, 1, 3, 2  1. Plastering 2. Painting 3. Foundation 4. Walls

If the following words are arranged according to English Dictionary, which word will be on third place?

(D)

(A) KNOW

(C) 3, 4, 5, 1, 2

(B) KNACK

5, 4, 3, 2, 1

- (C) KNIT
- (D) KNOB
- 22. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?
  - \_\_ bc c \_\_ a abc \_\_ ba ab \_\_ (A) acbc
    - (B) abac
  - (C) abcc
- (D) acac

- ions: In Question Nos. 23 to 26. hoose the correct alternative from the iven ones that will complete the series:
- ACE, BDF, CEG, ?
  - A) CED
- (B) DFH
- C) DEM
- (D) HED
- AZBY, CXDW, EVFU, ?
  - A) SHTG
- (B) GXHW
- C) GTHS
- (D) STHO
- 33, 48, 65, 84, <u>?</u> , <u>?</u>
  - A) 105, 128
- (B) 99, 110
- C) 101, 118
- (D) 105, 126
- 2, 10, 26, 50, <u>?</u>
  - (A) 74
- (B) 50
- (C) 78
- (D) 82
- 27. Find the wrong number in the given number series:
  - 2, 10, 30, 68, 120, 222
  - (A) 68
- (B) 120
- (C) 30
- (D) 222
- 28. Savitha introduced a boy as the son of the only daughter of the father of her maternal uncle. How is boy related to Savitha?
  - (A) Brother
- (B) Son
- (C) Nephew
- (D) Son-in-law

- 29. A father is three times as old as his son. Eight years ago, the father was five times as old as his son. What is the present age of the son?
  - (A) 12 years
- (B) 14 years
- (C) 16 years
- (D) 20 years
- **30.** From following alternatives select the word which <u>cannot</u> be formed using the letters of the given word:

DEPARTMENT

- (A) PART
- (B) TREAT
- (C) MATURE
- (D) TAME
- 31. From the following alternatives select the word which can be formed using the letters of the given word:

**EXPERIENCE** 

- (A) EXPIRE
- (B) PERCIEVE
- (C) EMPIRE
- (D) EXPENSE
- 32. If E = 5 and TEA = 26 then TEACHER = ?
  - (A) 75
- (B) 59
- (C) 60
- (D) 57

- 33. In certain code COMPUTER is written as OCPMTURE. In that code which alternative will be written as OHKCYE?
  - (A) HCOKEY
- (В) НҮКОСЕ
- (C) HOCKEY
- (D) HOYECK
- 34. X stands for +, Z stands for ÷, Y stands for -, and P stands for ×, then what is the value of 10 P 2 X 5 Y 5?
  - (A) 10
- (B) 15
- (C) 20
- (D) 25
- 35. Some equations are solved on the basis of a certain system. Find out the correct answer for the unsolved equation on that basis.

If  $3 \div 5 = 5$ ,  $4 \div 7 = 8$ ,  $8 \div 7 = 6$  then, what should  $9 \div 6$  be ?

- (A) 4
- (B) 9
- (C) 5
- (D) 6
- 36. Select the correct combination of mathematical signs to replace \* signs and to balance the given equation:

28 \* 4 \* 9 \* 16

- $(A) \div + =$
- (B) +÷=
- (C) -×+
- (D) -=×

**Directions:** In Question Nos. 37 & 38, find the missing number from the given responses.

- 37. 8 15 22 29 ? 43 50 57 64
  - (A) 34
- (B) 50
- (C) 33
- (D) 36
- 38. 7 9 3 8 3 5 2 5 ? 112 135 900
  - (A) 6
- (B) 70
- (C) 60
- (D) 65
- 39. A man starts from his house and walked straight for 10 metres towards North and turned left and walked 25 metres. He then turned right and walked 5 metres and again turned right and walked 25 metres.

Which direction is he facing now?

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

- 40. A and B start walking from the same point. A goes North and covers 3 km, then turns right and covers 4 kms. B goes west and covers 5 kms, then turns right and covers 3 kms. How far apart are they from each other?
  - (A) 10 km
- (B) 9 km
- (C) 8 km
- (D) 5 km
- 41. Five persons A, B, C, D and E are sitting in a row facing you such that D is on the left of C and B is on the right of E. A is on the right of C and B is on the left of D. If E occupies a corner position, then who is sitting in the centre?
  - (A) A
- (B) B
- (C) C
- (D) D
- 42. If Ram's house is located to the South of Krishna's house and Govinda's house is to the East of Krishna's house, in what direction is Ram's house situated with respect to Govinda's house?
  - (A) North-East
- (B) North-West
- (C) South-East
- (D) South-West

Directions: In Question Nos. 43 & 44, two statements are given followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You are to decide which of the given conclusions, if any, follow from the given statements. Indicate your answer.

- 43. Statements: 1. All children are students.
  - 2. All students are players.

Conclusions: I. All cricketers are students.

- II. All children are players.
- (A) Only conclusion I follows.
- (B) Only conclusion II follows.
- (C) Both conclusions I and II follow.
- (D) Neither conclusion I nor II follows.
- 44. Statements:
- No teacher comes to the school on a bicycle.
- 2. Anand comes to the school on a bicycle.

Conclusions: I. Anand is not a teacher.

- II. Anand is a student.
- (A) Conclusion I alone can be drawn.
- (B) Conclusion II alone can be drawn.
- (C) Both Conclusions can be drawn.
- (D) Both Conclusions can not be drawn.

**45.** Which answer figure will complete the pattern in the question figure?

# **Question Figure**



# **Answer Figures:**









(D)



**46.** Select the answer figure in which the question figure is hidden/embedded.

# **Question Figure**



# **Answer Figures:**













47. A piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?

#### **Question Figure**



#### Answer Figures:









48. Which of the answer figure is exactly the mirror image of the given figure, when the mirror is held on the line AB?

# **Question Figure**



# **Answer Figures:**













49. In the following question a word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, e.g., 'F' can be represented by 14, 21, etc. and 'E' can be represented by 20, 32, etc. Identify the set for the word FIRE.

M	[A]	RI	<b>X</b> -	- I	
	0	1	2	3	4
0	D	Е	F	I	N
1	I	N	D	Е	F
2	E	F	I	N	D
3	N	D	Е	F	I
4	F	I	N	D	E

	MA	AT)	RIX	K –	II
	5	6	7	8	9
5	0	P	R	S	T
6	S	T	0	P	R
7	P	R	S	Т	0
8	Т	0	P	R	S
9	R	S	Т	0	P

- (A) 21, 22, 88, 33
- (B) 14, 10, 69, 14
- (C) 33, 34, 76, 22
- (D) 02, 03, 57, 01
- **50.** Which one of the following diagrams best depicts the relationship among people, women and mothers?
  - (A)



 $\infty$ 





(D) None of these

# For VH Candidates Only

45. Which single letter when suffixed to the following words will form new words?

CAR MAR PAR TABLE

- (A) D
- (B) E
- (C) T
- (D) None or more than one letter
- 46. In a row of boys, Manish is 9<sup>th</sup> from the left and Suresh is 9<sup>th</sup> from the right. When they interchange their positions, Suresh becomes 18<sup>th</sup> from the right. What will be the Manish's new position from the left?
  - (A) 9<sup>th</sup>
  - (B)  $16^{th}$
  - (C) 18<sup>th</sup>
  - (D)  $20^{th}$
- 47. How many 5's are there in the following number series which are preceded by 3 but not followed by 8.

 $4\ 5\ 8\ 3\ 2\ 7\ 3\ 5\ 1\ 7\ 8\ 9\ 3\ 5\ 8\ 3\ 1\ 3\ 5\ 2$ 

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

- 48. A day-after-tomorrow will be X-Mas day. What will be the day on New-year-day if today is Monday?
  - (A) Monday
  - (B) Thursday
  - (C) Wednesday
  - (D) Tuesday
- 49. The heights of three towers are in the ratio 5:6:7. If a spider takes 15 minutes to climb the smallest tower, how much time will it take to climb the highest one.
  - (A) 15 minutes
  - (B) 18 minutes
  - (C) 21 minutes
  - (D) 54 minutes
- 50. In an examination Ravi scores 8 marks less than 80% of full marks and Amit gets 5 marks more than 70% of full marks. Ravi gets 2 marks more than Amit. How many marks does Ravi get?
  - (A) 220
  - (B) 120
  - (C) 112
  - (D) 96

#### PART - (b)

#### GENERAL AWARENESS

- 51. The value of a commodity expressed in terms of money is known as
  - (A) Price
- (B) Utility
- (C) Value
- (D) Wealth
- 52. The Planning Commission of India was established in the year
  - (A) 1947
- (B) 1949
- (C) 1950
- (D) 1952
- 53. Green Revolution was started in
  - (A) 1960
- (B) 1970
- (C) 1980
- (D) 1990
- 54. The term of the Finance Commission is
  - (A) Ten years
  - (B) Five years
  - (C) Six years
  - (D) Three years
- 55. Reserve Bank of India was Nationalised in
  - (A) 1948
- (B) 1947
- (C) 1949
- (D) 1950
- 56. Who was the Chairman of the Constituent Assembly?
  - (A) Dr. B.R. Ambedkar
  - (B) Dr. Rajendra Prasad
  - (C) Jawahar Lal Nehru
  - (D) Vallabh Bhai Patel
- 57. Which one of the following methods is used to ascertain the public opinion on important legislation?
  - (A) Initiative
  - (B) Recall
  - (C) Referendum
  - (D) None of the above

- 58. Fundamental Duties were added to the Constitution by
  - (A) 24<sup>th</sup> Amendment
  - (B) 39<sup>th</sup> Amendment
  - (C) 42<sup>nd</sup> Amendment
  - (D) 44<sup>th</sup> Amendment
- The final authority to interpret our Constitution is the
  - (A) President
  - (B) Parliament
  - (C) Prime Minister
  - (D) Supreme Court
- 60. Compared with Society, the scope of State activity is
  - (A) Wider
  - (B) Narrow
  - (C) Just equal
  - (D) No comparison between the two
- 61. Seleucus Nicator was defeated by
  - (A) Asoka
  - (B) Chandragupta Maurya
  - (C) Bindu Sara
  - (D) Brihadratha
- 62. The striking feature of the Indus Valley Civilization was
  - (A) Urban Civilization
  - (B) Agrarian Civilization
  - (C) Mesolithic Civilization
  - (D) Paleolithic Civilization
- 63. The Governor-General who abolished the practice of Sati was
  - (A) Dalhousie
  - (B) Ripon
  - (C) William Bentinck
  - (D) Curzon

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- 64. The famous Bhakti Saint who belonged to the royal family of Mewar was
  - (A) Chaitanya
  - (B) Andal
  - (C) Meerabai
  - (D) Ramabai
- 65. After Alexander's death the Eastern part of his empire came under
  - (A) Seleucus Nicator
  - (B) Menander
  - (C) Rudradaman
  - (D) Kanishka
- 66. The Thar Express goes to
  - (A) Afghanistan
  - (B) Bangladesh
  - (C) Pakistan
  - (D) Myanmar
- 67. The product used for manufacturing of Industrial alcohol is
  - (A) Khandasari
  - (B) Bagasse
  - (C) Molasses
  - (D) Paper-pulp
- 68. Guwahati is situated on the bank of the river
  - (A) Teesta
  - (B) Brahmaputra
  - (C) Hooghly
  - (D) Sone
- 69. Kanchenjunga is situated in
  - (A) Nepal
  - (B) Sikkim
  - (C) West Bengal
  - (D) Himachal Pradesh

- **70.** With which set of following countries has Arunachal Pradesh common border?
  - (A) Bhutan, Bangladesh & China
  - (B) Myanmar, Bangladesh & China
  - (C) Bhutan, China & Myanmar
  - (D) Bhutan, Bangladesh & Myanmar
- 71. The green colour of the leaves is due to the presence of
  - (A) Proteins
  - (B) Lipids
  - (C) Chlorophyll
  - (D) Carbohydrates
- 72. The edible part of an onion is
  - (A) Modified root
  - (B) Aerial flower
  - (C) Aerial stem
  - (D) Fleshy leaves
- 73. To which group of blood an universal recipient belongs?
  - (A) A group
  - (B) B group
  - (C) O group
  - (D) AB group
- 74. The normal body temperature of human beings is
  - (A) 96.4 °F
  - (B) 97.4 °F
  - (C) 98.4 °F
  - (D) 99.4 °F
- 75. Columba livia is the scientific name of
  - (A) Pigeon
  - (B) Snake
  - (C) Rabbit
  - (D) Shark

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- 76. Bones are pneumatic in
  - (A) Fishes
  - (B) Amphibians
  - (C) Reptiles
  - (D) Birds
- 77. Name the process of production of energy in the Sun
  - (A) Nuclear fission
  - (B) Radioactivity
  - (C) Nuclear fusion
  - (D) Ionization
- 78. A spherical ball made of steel when dropped in mercury container will
  - (A) sink in mercury
  - (B) will be on the surface of mercury
  - (C) will be partly immersed in mercury
  - (D) will dissolve in mercury
- 79. The sounds having a frequency of 20 Hertz to 20,000 Hertz are known as
  - (A) Audible sounds
  - (B) Ultrasonics
  - (C) Infrasonics
  - (D) Megasonics
- 80. Eclipses occur due to which optical phenomena?
  - (A) Reflection
  - (B) Refraction
  - (C) Rectilinear propagation
  - (D) Diffraction
- 81. Which of the following produces highest amount of energy upon oxidation?
  - (A) Protein
  - (B) Fat

- (C) Glucose
- (D) An alkane

- 82. Pure water is bad conductor of electricity because it is
  - (A) feebly ionized
  - (B) not volatile
  - (C) a very good solvent
  - (D) a non-polar solvent
- 83. Where is National Chemical Laboratory (NCL) located?
  - (A) Chandigarh
  - (B) Bhavnagar
  - (C) Pune
  - (D) Panaji
- **84.** The metals commonly used for electroplating are
  - (A) Gold, Sodium & Chromium
  - (B) Chromium, Copper & Nickel
  - (C) Nickel, Lead & Chromium
  - (D) Gold, Sodium & Potassium
- 85. Which of the following in automobile exhaust can cause cancer?
  - (A) Oxides of nitrogen
  - (B) Carbon monoxide
  - (C) Lead
  - (D) Polyclinic hydrocarbons
- **86.** Bleaching powder is used in drinking water as a/an
  - (A) disinfectant
  - (B) antibiotic
  - (C) antiseptic
  - (D) coagulant
- 87. Gamma rays have greatest similarity with
  - (A) α-rays
- (B) β-rays
- (C) X-rays
- (D) U.V.-rays
- 88. In the absence of ozone layer, which rays will enter into atmosphere?
  - (A) Infrared
  - (B) Visible
  - (C) Ultraviolet
  - (D) X-rays

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- 89. Where are programs and data to be used by the computer available?

  (A) Processing Unit
  (B) Output
  (C) Storage
  (D) Input
- 90. In HTML, <B> and </B> tags display the enclosed text in
  - (A) black colour
  - (B) background
  - (C) bold
  - (D) bright
- 91. Who invented chloroform as anaesthetic?
  - (A) James Simpson
  - (B) Edward Jenner
  - (C) Alexander Fleming
  - (D) Christian Barnard
- 92. The Nobel Prize for Chemistry for the year 2011 has been awarded to
  - (A) Saul Perlmutter, Brian P. Schmidt & Adam G. Riess
  - (B) Bruce A. Beutler, Jules A. Hoffmann & Ralph M. Steinman
  - (C) Christopher A. Sims & Thomas J. Sargent
  - (D) Dan Schechtman
- 93. Sebastian Vettel won the Formula 1 Indian Grand Prix held at Greater Noida on October 30, 2011. This was also his win of the season.
  - (A) 10<sup>th</sup>
- (B) 11<sup>th</sup>
- (C)  $12^{th}$
- (D) 13<sup>th</sup>
- 94. Of which of the following States of India is Kuchipudi a dance-drama?
  - (A) Orissa
  - (B) Andhra Pradesh
  - (C) Kerala

(D) Tamil Nadu

- 95. With which of the following was Satyajit Ray associated?
  - (A) Classical dance
  - (B) Journalism
  - (C) Classical music
  - (D) Direction of films
- 96. Census data released on July 15, 2011 reflects that 13.48 percent urban population lives in
  - (A) Uttar Pradesh
  - (B) Bihar
  - (C) Maharashtra
  - (D) Rajasthan
- 97. National Social Assistance Programme is aimed at providing
  - (A) financial support to Scheduled Castes and Scheduled Tribes
  - (B) old age pension to very poor
  - (C) insurance for the poor
  - (D) All of the above
- 98. As per studies, the Tummalapalle mine in Andhra Pradesh could have Uranium reserve of
  - (A) 1 lakh tonnes
  - (B) 1.5 lakh tonnes
  - (C) 2 lakh tonnes
  - (D) 2.5 lakh tonnes
- 99. Which of the following is a famous Assamese festival?
  - (A) Makar Sakranti
  - (B) Yugadi
  - (C) Onam
  - (D) Rongali Bihu
- 100. The least populated State in India is
  - (A) Arunachal Pradesh
  - (B) Sikkim
  - (C) Mizoram
  - (D) Uttarakhand

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- 101. If  $\sqrt{4096} = 64$  then value of  $\sqrt{40.96}$  +  $\sqrt{.4096} + \sqrt{.004096} + \sqrt{.00004096}$ 
  - (A) 7.09
- (B) 7.1014
- (C) 7.1104
- (D) 7.12
- 102. The value of  $\frac{1}{15} + \frac{1}{35} + \frac{1}{63} + \frac{1}{99} + \frac{1}{143}$  is
  - (A)  $\frac{5}{39}$  (B)  $\frac{4}{39}$
  - (C)  $\frac{2}{39}$  (D)  $\frac{7}{39}$
- 103. When simplified (256)  $-\left(4^{-\frac{3}{2}}\right)$  is
  - (A) 8
- (C) 2
- (D)  $\frac{1}{2}$
- 104. The number 2.52, when written as a fraction and reduced to lowest terms, the sum of the numerator denominator is
  - (A) 7
- (B) 29
- (C) 141
- 349 (D)
- 105. If the square root of x is the cube root of y, then the relation between x and y
  - (A)  $x^3 = y^2$
- (B)  $x^2 = y^3$
- (C) x = y (D)  $x^6 = y^5$

- 106. A and B together can complete a work in 12 days. A alone can complete in 20 days. If B does the work only half a day daily, then in how many days A and B together will complete the work?
  - (A) 10 days
- (B) 20 days
- (C) 11 days
- (D) 15 days
- 107. A can do a piece of work in 70 days and B is 40% more efficient than A. The number of days taken by B to do the same work is
  - (A) 40 days
- 60 days (B)
- (C) 50 days
- (D) 45 days
- 108. A right circular cylinder, a hemisphere and a right circular cone stand on the same base and have the same height. The ratio of their volumes is then
  - (A) 3:6:1
- (B) 3:4:1
- (C) 3:2:1
- (D) 4:3:1
- 109. A cylinder has 'r' as the radius of the base and 'h' as the height. The radius of base of another cylinder, having double the volume but the same height as that of the first cylinder must be equal to
  - (A)  $\frac{r}{\sqrt{2}}$
- (B) 2r
- (C)  $r\sqrt{2}$
- (D)  $\sqrt{2r}$

SPACE FOR ROUGH WORK

- 110. Area of the base of a pyramid is 57 sq. cm. and height is 10 cm, then its volume in cm<sup>3</sup>, is
  - (A) 570
- 390 (B)
- (C) 190
- (D) 590
- 111. If the length of the diagonal of a cube is  $8\sqrt{3}$ , then its surface area is
  - (A) 192 cm<sup>2</sup>
- (B)  $512 \text{ cm}^2$
- (C)  $768 \text{ cm}^2$
- (D)  $384 \text{ cm}^2$
- 112. The area of a circle inscribed in a square of area 2 m<sup>2</sup> is
  - (A)  $\frac{\pi}{4}$  m<sup>2</sup> (B)  $\frac{\pi}{2}$  m<sup>2</sup>
  - (C)  $\pi$  m<sup>2</sup>
- (D)  $2\pi \text{ m}^2$
- 113. If the numerical value of the perimeter of an equilateral triangle is  $\sqrt{3}$  times the area of it, then the length of each side of the triangle is
  - (A) 2 unit
- (B) 3 unit
- (C) 4 unit
- (D) 6 unit
- 114. An equilateral triangle is drawn on the diagonal of a square. The ratio of the area of the triangle to that of the square
  - (A)  $\sqrt{3}:2$
- (B)  $\sqrt{2} : \sqrt{3}$ (D)  $1 : \sqrt{2}$
- (C)  $2:\sqrt{3}$
- 115. For a certain article, if discount is 25% the profit is 25%. If the discount is 10%, then the profit is
  - (A) 50%
- (B) 40%
- (C) 30%
- (D)  $33\frac{1}{3}\%$

- 116. The price that Akbar should mark on a pair of shoes which costs him ₹ 1,200 to gain 12% after allowing a discount of 16% (in rupees) is
  - (A) 1344
- (B) 1433
- (C) 1600
- (D) 1500
- 117. If y : x = 4 : 15, then the value of  $\left(\frac{x-y}{x+y}\right)$  is

- 118. Some carpenters promised to do a job in 9 days but 5 of them were absent and remaining men did the job in 12 days. The original number of carpenters was
  - (A) 24
- (B) 20
- (C) 16
- (D) 18
- 119. One third of a certain journey is covered at the rate of 25 km/hour, onefourth at the rate of 30 km/hour and the rest at 50 km/hour. The average speed for the whole journey is
  - (A) 35 km/hour
  - (B)  $33\frac{1}{3}$  km/hour
  - (C) 30 km/hour
  - (D)  $37\frac{1}{12}$  km/hour

- 120. The average of two numbers is 62. If 2 is added to the smallest number, the ratio between the numbers becomes 1:2. The difference of the numbers is
  - (A) 62
- (B) 40
- (C) 84
- (D) 24
- 121. The cost price of 25 articles is equal to the selling price of 20 of them. The gain or loss percent is given by
  - (A) 20% loss
- (B) 25% gain
- (C) 60% loss
- (D) 75% gain
- 122. A shopkeeper makes a profit of 20% even after giving a discount of 10% on the marked price of an article. If marked price is ₹ 500/- then the cost price of the article is
  - (A) ₹350
- (B) ₹375
- (C) ₹ 425
- (D) ₹475
- 123. If 40% of (A + B) = 60% of (A B) then  $\frac{2A - 3B}{A + B}$  is
  - (A)  $\frac{7}{6}$
- (B)  $\frac{6}{7}$
- (C)  $\frac{5}{6}$
- (D)  $\frac{6}{5}$
- 124. A number is first increased by 10% and then it is further increased by 20%. The original number is increased altogether by
  - (A) 30%
- (B) 15%
- (C) 32%
- (D) 36%

- 125. If a train runs at 40 km/hour, it reaches its destination late by 11 minutes. But if it runs at 50 km/hour, it is late by 5 minutes only. The correct time (in minutes) for the train to complete the journey is
  - (A) 13
- (B) 15
- (C) 19
- (D) 21
- 126. A tree increases annually by  $\frac{1}{8}$ th of its height. By how much will it increase after 2 years, if it stands today 64 cm height?
  - (A) 72 cm
- (B) 74 cm
- (C) 75 cm
- (D) 81 cm
- 127. If  $2^{x+3} = 32$ , then the value of  $3^{x+1}$  is equal to
  - (A) 27
- (B) 81
- (C) 72
- (D) 9
- 128. If  $x + \frac{1}{x} = 2$ ,  $x \ne 0$  then value of  $x^2 + \frac{1}{x^3}$  is equal to
  - (A) 1
- (B) 2
- (C) 3
- (D) 4
- 129. If  $\frac{a}{b} + \frac{b}{a} = 1$ ,  $a \ne 0$ ,  $b \ne 0$  the value of  $a^3 + b^3$  is
  - (A) 0
- (B) 1
- (C) -1
- (D) 2
- 130. If  $a^2 + b^2 + c^2 + 3 = 2(a + b + c)$  then the value of (a + b + c) is
  - (A) 2
- (B) 3
- (C) 4
- (D) 5

- 131. If  $\frac{2P}{P^2 2P + 1} = \frac{1}{4}$ ,  $P \neq 0$ , then the value of P +  $\frac{1}{P}$  is
  - (A) 4
- (B) 5
- (C) 10
- (D) 12
- 132. The ortho centre of a right angled triangle lies
  - (A) outside the triangle
  - (B) at the right angular vertex
  - (C) on its hypotenuse
  - (D) within the triangle
- 133. The angles of a triangle are  $(x + 5)^{\circ}$ ,  $(2x-3)^{\circ}$  and  $(3x+4)^{\circ}$ . The value of x is
  - (A) 30
- (B) 31
- (C) 29
- (D) 28
- 134. Two line segments PQ and RS intersects at X in such a way XP = XR. If  $\angle PSX = \angle RQX$ , then one must have
  - (A) PR = QS
  - (B) PS = RQ
  - (C) ∠XSQ = ∠XRP
  - (D)  $ar(\Delta PXR) = ar(\Delta QXS)$
- 135. AD is the median of a triangle ABC and O is the centroid such that AO = 10cm. The length of OD in cm is
  - (A) 4
- (B)
- (C) 6
- (D)
- 136. The external bisector of  $\angle B$  and  $\angle C$  of ΔABC (where AB & AC extended to E and F respectively) meet at point P. If ∠BAC = 100°, then the measure of ∠BPC is
  - (A) 50°
- 80° (B)
- (C) 40°
- 100° (D)

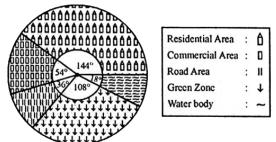
- 137. If  $tan(2\theta + 45^{\circ}) = cot 3\theta$  where  $(2\theta + 45^{\circ})$  and  $3\theta$  are acute angles, then the value of  $\theta$  is
  - (A) 5°
- (B) 9°
- (C) 12°
- (D) 15°
- 138. One flies a kite with a thread 150 metres long. If the thread of the kite makes an angle of 60° with the horizontal line, then the height of the kite from the ground (assuming the thread to be in a straight line) is
  - (A) 50 metres
- (B)  $75\sqrt{3}$  metres
- (C)  $25\sqrt{3}$  metres (D) 80 metres
- 139. If  $\theta$  be acute angle and  $\cos \theta = \frac{15}{17}$ , then the value of  $\cot(90^{\circ} - \theta)$  is
  - (A)  $\frac{2\sqrt{8}}{15}$  (B)  $\frac{8}{15}$  (C)  $\frac{\sqrt{2}}{17}$  (D)  $\frac{8\sqrt{2}}{17}$
- **140.** If  $\sec^2 \theta + \tan^2 \theta = \frac{7}{12}$ , then

 $\sec^4 \theta - \tan^4 \theta =$ 

- (A)  $\frac{7}{12}$  (B)  $\frac{1}{2}$
- (C)  $\frac{5}{12}$
- (D) 1
- 141. If  $\cos x + \cos y = 2$ , the value of  $\sin x +$ sin y is
  - (A) 0
- (B) 1
- (C)
- (D) -1

SPACE FOR ROUGH WORK

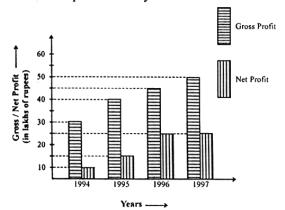
The following Pie-chart shows the land distribution of a housing complex. If the total area of the complex is 5 acres, examine the pie chart and answer the questions (142 to 145):



- 142. The ratio of area allotted for residential and road purpose is
  - (A) 1:4
- (B) 4:1
- (C) 3:8
- (D) 8:3
- 143. The percentage of the total area allotted for water body and green zone together is
  - (A) 35%
- (B) 30%
- (C) 45%
- (D) 40%
- 144. Land allotted for green zone is greater than that for commercial purpose by
  - (A)  $\frac{3}{2}$  acres
- (B)  $\frac{2}{3}$  acres
- (C)  $\frac{4}{3}$  acres
- (D)  $\frac{3}{4}$  acres
- 145. The total land allotted for residential and commercial purpose is
  - (A)  $2\frac{1}{4}$  acres
- (B)  $4\frac{1}{2}$  acres
- (C)  $2\frac{3}{4}$  acres
- (D)  $2\frac{1}{2}$  acres

Study the following bar graph and answer the questions 146 to 150:

Gross Profit and Net Profit of a company in lakhs of rupees for the years 1994-1997:



- 146. The year in which the gross profit is double the net profit
  - (A) 1997 (C) 1996
- (B) 1995 (D) 1994
- 147. The percentage of net profit of 1995 as compared to the gross profit in that year is
  - (A) 25.5%
- (B) 35.5%
- (C) 37.5% (D) 42.5%
- 148. The difference of average gross profit and average net profit calculated for four years is
  - (A) ₹ 18.75 lakhs (B) ₹ 19.75 lakhs (C) ₹ 20.5 lakhs (D) ₹ 22.5 lakhs
- 149. The ratio of gross profit to net profit in a year was greatest in the year
  - (A) 1994
- (B) 1995
- (C) 1996
- (D) 1997
- 150. For the entire four years as shown, the ratio of total gross profit to total net profit is
  - (A) 13:4
- (B) 11:6
- (C) 11:5
- (D) 9:4

# For Visually Handicapped Candidates Only

- 142. A, B and C started a business. A invests one-third as much as B invests and B invests 2 times of what C invests. If they made a profit of ₹ 5,500, then A's profit is
  - (A) ₹ 1,000
- (B) ₹1,500
- (C) ₹500
- (D) ₹ 2,000
- 143. A bicycle rider covers his onwards journey from A to B at 10 km/hr and during the return journey from B to A, he covers the same distance at 8 km/hr. If he finishes the onward and return journey in  $4\frac{1}{2}$  hours then the total distance covered by him during the entire journey is
  - (A) 30 km
- (B) 40 km
- (C) 50 km
- (D) 20 km
- 144. If the numerator of a fraction is increased by 20% and the denominator is diminished by 20%, the value of the fraction is  $\frac{4}{5}$ . The sum of numerator and denominator of the original fraction is
  - (A) 13
- (B) 9
- (C) 23
- (D) 22
- 145. x varies inversely as the cube root y. x is 6 when y is 125. The value of x, when y is 27, is
  - (A) 10
- (B) 12
- (C) 3.6
- (D) 11

- 146. If two successive discounts be 10% and 10%, then the single equivalent discount will be
  - (A) 20%
- (C) 18%
- (D)  $10\frac{9}{10}\%$
- 147. The radius of a cycle wheel is 35 cm, How many revolutions, will it make to cover a distance of 1.1 km?

$$\left(\text{Take }\pi = \frac{22}{7}\right)$$

- 100 200 (B) (D)
- 148. In any regular polygon with n sides each internal angle is
  - (A)  $\left(\frac{n-4}{n}\right)90^{\circ}$
- (B) (2n 4)90°
- (C)  $(\frac{2n-4}{n})90^{\circ}$  (D)  $(2-\frac{n}{2})90^{\circ}$
- 149. A man gave  $\frac{1}{5}$ th worth of his property to

his daughter and  $\frac{1}{4}$ th to his son. Then half of the balance amount was invested in a bank and the remaining amount was given to his wife. If his wife got ₹ 1,10,000, then the value of the property is

- (A) ₹ 6,00,000 (C) ₹ 4,00,000
- (B) ₹ 5,00,000 (D) ₹ 3,00,000
- Value of  $1 + \frac{1}{1 + \frac{1}{1 + \frac{1}{2}}}$  is 150.

# PART – (d) ENGLISH LANGUAGE

Directions: In Question Nos. 151 to 155, some part of the sentences have errors and some have none. Find out which part of a sentence has an error and blacken the rectangle [ ] corresponding to the appropriate letter (A, B, C). If there is no error, blacken the rectangle [ ] corresponding to (D) in the Answer Sheet.  151. Neither of them / are / good. / (A) (B) (C) No error.	Directions: In Question Nos. 156 to 160, sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate rectangle [ in the Answer Sheet.  156. The news was good to be true.  (A) very (B) too (C) so
(D)	(D) as
152. Due to me being a new comer / (A)  I was unable / to get a good house. / (B) (C)  No error. (D)	157. How much longer this book?  (A) you are needing (B) will you be needing (C) will you have needed (D) have you needed
£ * 2	158 you hear the President's speech?
153. The circulation of The Statesman / (A) is greater than / that of any newspaper. / (B) (C) No error. (D)	(A) Have (B) Has (C) Had (D) Did  159. I to the movies with some
154. In the garden /	friends last night.
(A) were the more beautiful flowers / (B) and silver bells. / No error. (C) (D)	<ul><li>(A) have gone</li><li>(B) went</li><li>(C) am gone</li><li>(D) am going</li></ul>
	160. She has only friends.
155. The poet / describes about / (A) (B) the spring season. / No error.	(A) fewer (B) less (C) more
(C) (D)	(D) a few
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Directions: In Question Nos. 161 to 165, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

# 161. magnificent

- (A) magnanimous (B) modest
- (C) generous
- (D) splendid

#### 162. spirited

- (A) heated
- (B) drunk
- (C) enthusiastic
- (D) possessed

#### 163. gloomy

- (A) misty
- (B) obscure
- (C) murky
- (D) shadowy

#### 164. grumble

- (A) to scold
- (B) to complain
- (C) to sheer
- (D) to fight

#### 165. crude

- (A) unrefined
- (B) cruel
- (C) rude
- (D) savage

Directions: In Question Nos. 166 to 170, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

# 166. detest

- (A) test
- (B) dislike
- (C) like
- (D) interest

# 167. intentional

- (A) accidental
- (B) undecided
- (C) concentrated (D)
  - D) broken

# 168. commence

- (A) start
- (B) schedule
- (C) conclude
- (D) dissolve

# 169. expand

- (A) contract
- (B) contrast
- (C) consist
- (D) controvert

# 170. prosperity

- (A) propriety
- (B) property
- (C) adversity
- (D) perspicacity

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which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

171. to speak one's mind.

Directions: In Question Nos. 171 to 175,

four alternatives are given for the

Idiom/Phrase. Choose the alternative

- (A) To be frank and honest
- (B) To think aloud
- (C) To talk about one's ideas
- (D) To express one's thoughts

# 172. to make a mountain of a molehill

- (A) to make advantage of a small thing
- (B) to give great importance to little things
- (C) to get into trouble
- (D) to see a thing with prejudiced mind

## 173. hand in glove

- (A) in close relationship
- (B) non-cooperative
- (C) critical
- (D) on bad terms

## 174. to add fuel to the fire

- (A) to make matters bright
- (B) to cause additional anger
- (C) to bring matters to a conclusion
- (D) to start a revolt

# 175. Wear and tear

- (A) a brand name
- (B) damage
- (C) lot of sorrow
- (D) a warning

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- Directions: In Question Nos. 176 to 180, a part of the sentence is underlined. Below are given alternatives to the underlined part at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed your answer is (D).
- 176. A pair of shoes <u>have been</u> purchased by me.
  - (A) has been
  - (B) has being
  - (C) would been
  - (D) no improvement
- 177. When <u>I shall go</u> to Agra, I shall visit the Taj Mahal.
  - (A) have gone
  - (B) shall travel
  - (C) go
  - (D) no improvement
- 178. You must apologise with him for this.
  - (A) to
  - (B) of
  - (C) for
  - (D) no improvement
- 179. Since he worked hard he failed to secure good grades.
  - (A) As
  - (B) When
  - (C) Though
  - (D) No improvement
- **180.** The minister agreed <u>will answer</u> questions on television.
  - (A) to answer

- (B) for answering
- (C) with answering
- (D) no improvement

- Directions: In Question Nos. 181 to 185, out of the four alternatives, choose the one which can be substituted for the given sentence and indicate it by blackening the appropriate rectangle
  - [ in the Answer Sheet.
- **181.** A person who loves wealth and spends as little money as possible.
  - (A) Curmudgeon
  - (B) Money-grabber
  - (C) Scrimp
  - (D) Miser
- **182.** State of anxiety or dismay causing mental confusion.
  - (A) Constriction
  - (B) Consternation
  - (C) Concentration
  - (D) Contraction
- 183. A person who is fluent in two languages.
  - (A) Versatile
  - (B) Expert
  - (C) Bilingual
  - (D) Knowledgeable
- 184. One who eats human flesh.
  - (A) Maneater
  - (B) Cannibal
  - (C) Beast
  - (D) Savage
- **185.** The quality of being politely firm and demanding.

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- (A) assertive
- (B) bossy
- (C) aggressive
- (D) lordy

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Directions: In Question Nos. 186 to 190, groups of four words are given. In each group, one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

- 186. (A) independance
  - independence (B)
  - (C) independens
  - indepandance (D)
- 187. (A) hypocrisy
- hypocresy (B)
- (C) hipocrisy
- hipocrecy (D)
- 188. (A) aeroplane
- (B) airoplane
- (C) aeroplain
- (D) airoplain
- 189. (A) loanly
- (B) lonly
- (C) lonelie
- (D) lonely
- 190. (A) cerimony
- (B) ceremoney
- (C) ceremony
- (D) cerimoney

**Directions**: In the following passage 191 to 200, some of the words have been left out. First read the passage over and try to understand what it is about. Then fill in the blanks with the help of the alternatives given. Mark your answer in the Answer Sheet.

> "Quit India" came not from the lips but the aching hearts of millions. In this open rebellion, the Indian 191 reached its climax. The British were not only 192 by it, but also were obliged to quit unilaterally. The importance of Quit India can be 193 from Lord Linlithgow's statement, "I am engaged here in meeting by far the most 194 rebellion since that of 1857, the gravity and extent of which we have so far

195 from the world for reasons of security." military Still significant was Churchill's gloomy disclosure to the King Emperor that, "the idea of 196 of power had become an admitted 197 in the minds of British party leaders," although his public statements were diametrically opposite. The 198 created by Quit India made the British 199 that they could no longer keep India in 200.

- 191. (A) freedom (B)
- patriotism
  - (C) liberation
- (D) revolution
- 192. (A) threatened
- inspired (B)
- attacked (C)
- impressed (D)
- 193. (A) diffused (C) established
- gauged (B) (D) determined
- 194. (A) trivial
- magnificent (B)
- (C) serious
- (D) auspicious
- 195. (A) excluded
- (B) elicited
- (C) prevented
- (D) concealed
- 196. (A) transfer
- (B) seizure
- (C) grabbing
- (D) retainment
- **197.** (A) tactics
- (B) fantasy
- inevitability (C)
- (D) occurrence
- 198. (A) violence
- (B) taboos
- (C) vengeance
- (D) anarchy
- 199. (A) imagine
- (C) realise
- (B) pretend anxious
- **200.** (A) power
- (D)
- (C) exile

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(B) bondage (D) suspense

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