DRDO SET 2008 - General Ability Question Paper

Section - B

101. Consider the list of words: etiquette, accomodate, forty, exaggerate, continous, independant, reciept.
The number of misspelt words in the list is
(A) 1 (B) 2 (C) 3 (D) 4

102. Consider the following sentences:
Sentence 1: A few friends he has are all very rich.
Sentence 2: Do not insult the weak.
Sentence 3: The later of the two persons was more interesting.
Sentence 4: All the informations were correct.
Out of these sentences, the grammatically correct sentence is
(A) Sentence 1 (B) Sentence 2 (C) Sentence 3 (D) Sentence 4

103. The appropriate auxiliary verb to fill in the blank of the sentence "Gandhi knew that he __ soon be jailed." is
(A) would (B) will (C) shall (D) may

104. The number of missing punctuation marks in the sentence "Rajesh along with Amit went to the market." is
(A) 0 (B) 1 (C) 2 (D) 3

105. The meaning of the word PLAGIARISM is
(A) theft of public money (B) theft of ideas
(C) belief in one god (D) belief in many gods

106. The antonym of the word TRANSIENT is
(A) certain (B) close (C) permanent (D) fast

107. ACROPHOBIA is the abnormal fear of
(A) open space (B) height (C) fire (D) water

108. The appropriate pair of prepositions to fill in the blanks in the sentence "He was angry __ me, because my remarks were aimed __ him." is
(A) at, to (B) with, at (C) with, to (D) at, for

109. The appropriate word(s) to fill up the blank in the sentence "I remember __ voices in the middle of the night." is (are)
(A) hear (B) to hear (C) hearing (D) heard

110. The passive voice form of the sentence "I have known him for a long time." is
(A) He is known to me for a long time
(B) He is known by me for a long time
(C) He has been known to me for a long time
(D) He has been known by me for a long time

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111. If kennel is to a dog, then ___ is to a hen.

(A) nest (B) coop (C) hole (D) stable

112. If NATION is to 523675, then NOTION is to

(A) 573675 (B) 563765 (C) 576375 (D) 557365

113. The next two numbers of the series 3, 5, 11, 21 are

(A) 34 and 52 (B) 34 and 53 (C) 35 and 52 (D) 35 and 53

114. A, B and C are three places in India with longitudes 80°E, 85°E and 90°E respectively. Which one of the following statements about the local times of the places is true?

(A) Local time of C is ahead of that of B
(B) Local time of B is ahead of that of C
(C) Local time of A is ahead of that of C
(D) A, B and C all have the same local time

115. In this question, notations +, ÷ and × are used as follows
A + B means A is the husband of B;
A ÷ B means A is the sister of B;
A × B means A is the son of B.
With these relations, the relationship denoted by P ÷ Q × R is

(A) P is son of R
(B) P is daughter of R
(C) P is uncle of R
(D) P is father of R

116. If DELHI is written as EDHIL, then PARIS is written as

(A) APRIS (B) SARIP (C) SAPIR (D) APISR

117. The number of prime numbers between 10 and 50 is

(A) 10 (B) 11 (C) 12 (D) 13

118. The odd one in the list: LAN, TCP/IP, HACKER and KILLER is

(A) LAN (B) TCP/IP (C) KILLER (D) HACKER

119. SAW is to carpenter as SCALPEL is to

(A) surgeon (B) mason (C) plumber (D) tailor

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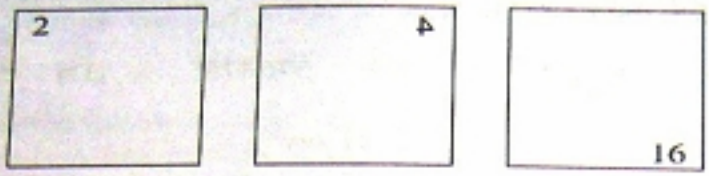
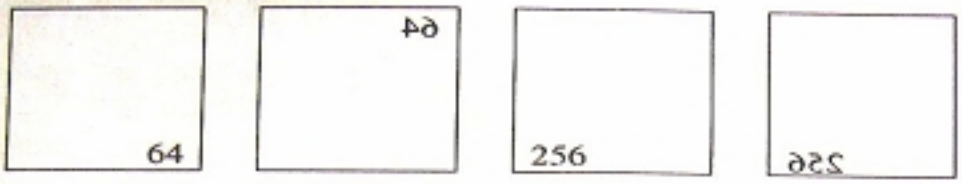
120. The first three pictures in a sequence are given below.

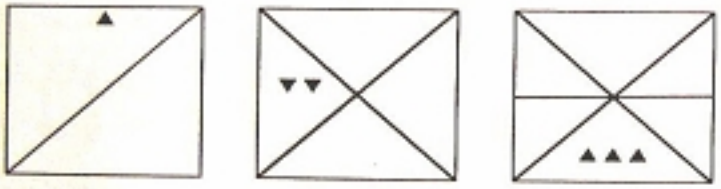


The next figure in the sequence is



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

121. The first three pictures in a sequence are given below.



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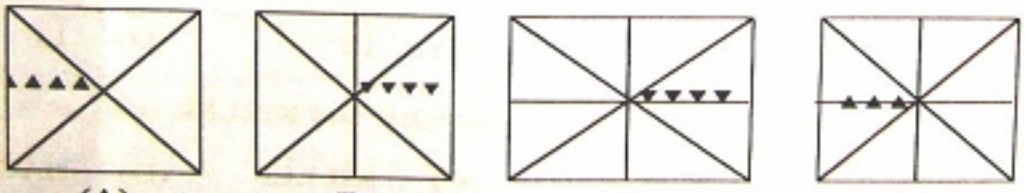

(A) (B) (C) (D)

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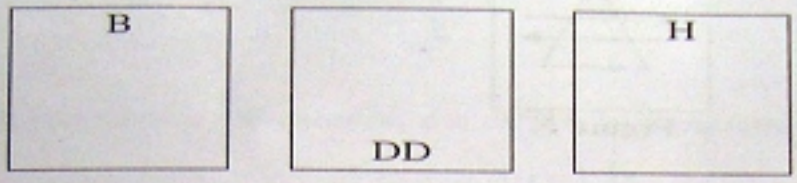
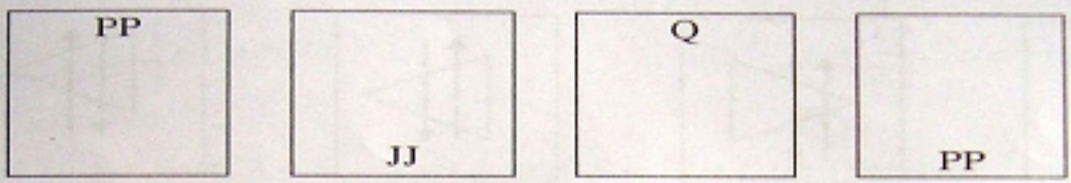
122. The first three pictures in a sequence are given below.

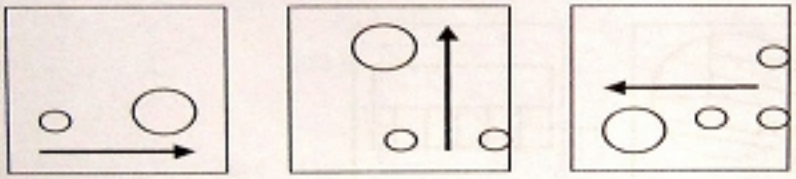


The next picture in the sequence is

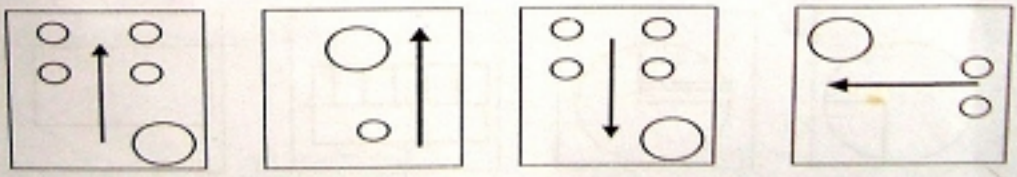


(A) (B) (C) (D)

123. The first three pictures in a sequence are given below.



The next picture in the sequence is



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

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124. Consider Figure X given below.

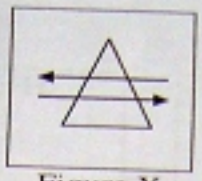
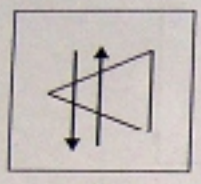
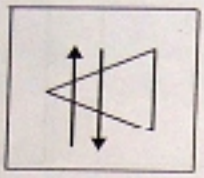


Figure X

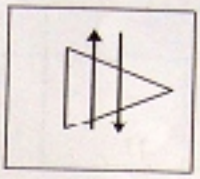
When figure X is rotated clockwise through 90° and held before a plane mirror, the image obtained is



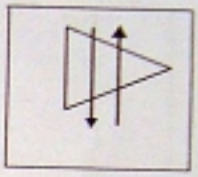
(A)



(B)



(C)



(D)

125. The relationship between Figure (I) and Figure (II) is similar to that between Figure (III) and the missing Figure (IV) below.

Figure (I)

Figure (II)

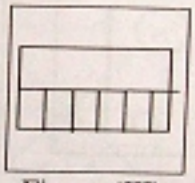
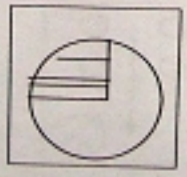


Figure (III)

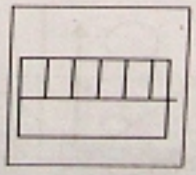
Figure (IV)

The Figure (IV) is:

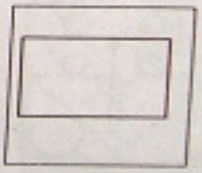
(A)



(B)



(C)



(D)

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126. The value of $\frac{1+2i}{3-4i}+\frac{2-i}{5i}$, where $i^2=-1$, is

(A) $-\frac{5}{2}$ (B) $\frac{5}{2}$ (C) $\frac{2}{5}$ (D) $-\frac{2}{5}$

127. The particular solution of the differential equation $\frac{d^2y}{dx^2}+2\frac{dy}{dx}+5y=0$ satisfying the conditions $y(0)=0$ and $y'(0)=1$ is

(A) $y=\frac{1}{2}e^{-x}\cos 2x$ (B) $y=\frac{1}{2}e^{-x}\sin 4x$

(C) $y=\frac{1}{2}e^{-x}\sin 2x$ (D) $y=\frac{1}{2}e^{-x}\cos 4x$

128. For the vectors $\vec{A}=3\hat{i}-2\hat{j}+\hat{k}$ and $\vec{B}=2\hat{i}-\hat{k}$, the value of $\left(\vec{A}\times\vec{B}\right)\cdot\vec{A}$ is

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

129. The orthogonal trajectory of the family of curves $x^2-y^2=\alpha$ (where α is a constant) and passing through the point $(1, 1)$ is

(A) $y=-\frac{1}{x}$ (B) $y=\frac{1}{x}$ (C) $y=-x$ (D) $y=x$

130. The value of the line integral $\int y^2\,dx+2xy\,dy$ over the curve $x=a\cos t$, $y=a\sin t$ is

(A) 0 (B) 1 (C) 2 (D) 4

131. The n-th partial sum of the infinite series $\frac{1}{1\times 2}+\frac{1}{2\times 3}+\frac{1}{3\times 4}+\cdots+\frac{1}{n\times(n+1)}+\cdots$ is

(A) $\frac{1}{n+1}$ (B) $\frac{n+2}{n+1}$ (C) $\frac{n}{n+1}$ (D) $\frac{n-1}{n+1}$

132. The complex-valued function $f(z)=e^z$ is analytic for

(A) no z (B) all z
(C) real z only (D) imaginary z only

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133. The inverse of the matrix $\begin{pmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{pmatrix}$ is

(A) $\begin{pmatrix} -\cos\theta & \sin\theta \\ \sin\theta & \cos\theta \end{pmatrix}$ (B) $\begin{pmatrix} \cos\theta & \sin\theta \\ \sin\theta & -\cos\theta \end{pmatrix}$

(C) $\begin{pmatrix} \cos\theta & -\sin\theta \\ -\sin\theta & \cos\theta \end{pmatrix}$ (D) $\begin{pmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{pmatrix}$

134. Consider the function $f(x)$ defined as

$$f(x) = \begin{cases} 3x-1, & x<0 \\ 0, & x=0 \\ 2x+5, & x>0 \end{cases}$$

In the following table, List I shows four expressions for limits of $f(x)$ and List II indicates the values of the limits.

List I		List II	
P.	$\lim_{x\to 2} f(x)$	1.	-1
Q.	$\lim_{x\to 0^+} f(x)$	2.	9
R.	$\lim_{x\to 0^-} f(x)$	3.	-10
S.	$\lim_{x\to -3} f(x)$	4.	5

The CORRECT matches for items in List I and List II are:

(A) $P-2,\ Q-4,\ R-1,\ S-3$ (B) $P-2,\ Q-4,\ R-3,\ S-1$

(C) $P-4,\ Q-2,\ R-1,\ S-3$ (D) $P-4,\ Q-2,\ R-3,\ S-1$

135. Two events A and B with probability 0.5 and 0.7, respectively, have joint probability of 0.4. The probability that neither A nor B happens is

(A) 0.2 (B) 0.4 (C) 0.6 (D) 0.8

136. Consider the differential equation

$$x^2\frac{d^2y}{dx^2} + x\frac{dy}{dx} + \left(x^2-4\right)y = 0 \ .$$

The statement which is **NOT TRUE** for this differential equation is:

(A) It is a linear second order ordinary differential equation
(B) It cannot be reduced to a differential equation with constant coefficients
(C) $x=0$ is a regular singular point
(D) It is a non-homogeneous second order ordinary differential equation

137. The sum of two numbers is 16 and the sum of their squares is a minimum. The two numbers are

(A) 10, 6 (B) 9, 7 (C) 8, 8 (D) 5, 11

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138. The value of the definite integral $\int_0^{\left(\frac{\pi}{2}\right)^{1/3}} x^2 \sin\left(x^3\right) dx$ is

(A) $-\frac{1}{3}$ (B) 0 (C) 1 (D) $\frac{1}{3}$

139. A circle C_2 is concentric with the circle $C_1: x^2+y^2-4x+6y-12=0$, and has a radius twice that of C_1. The equation of the circle C_2 is

(A) $x^2+y^2-4x+6y-13=0$ (B) $x^2+y^2-4x+6y-87=0$
(C) $x^2+y^2-4x+6y-100=0$ (D) $x^2+y^2-4x+6y-88=0$

140. Consider the quadratic equation $x^2+px+q=0$. If p and q are roots of the equation, the values of p and q are

(A) $p=0,\ q=0$ only (B) $p=1,\ q=-2$ only
(C) $p=0,\ q=0$ and $p=1,\ q=-2$ (D) $p=0,\ q=0$ and $p=-2,\ q=1$

141. Sarnath is situated in the state of

(A) Madhya Pradesh (B) Bihar
(C) Punjab (D) Uttar Pradesh

142. Green house effect is due to the increase of atmospheric

(A) CO_2 level (B) SO_2 level
(C) CO level (D) N_2 level

143. In the month of July, it is winter in

(A) New York (B) Beijing (C) Sydney (D) London

144. The Chairman of the Planning Commission of India is

(A) The Prime Minister (B) The Vice President
(C) The Union Finance Minister (D) The Union Commerce Minister

145. The satellite launch vehicle that placed a number of satellites into orbit in May 2008 is

(A) PSLV-C7 (B) PSLV-C8 (C) PSLV-C9 (D) PSLV-C10

146. DRDO was formed in

(A) 1947 (B) 1950 (C) 1954 (D) 1958

147. SAMYUKTA is developed for the use of

(A) Navy (B) Army (C) Air Force (D) RAC

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148. DARL 202 is a variety of

(A) pea (B) garlic (C) capsicum (D) tomato

149. TRISHUL is

(A) a surface to surface battlefield missile
(B) a quick reaction surface to air missile
(C) an intermediate range ballistic missile
(D) a supersonic cruise missile

150. HUMSA is a

(A) sonar (B) tank
(C) mine (D) night vision device

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