1. ‘Mnemonics’ vdh gl a c l d ;nj hj h G l aj.
   a. ep khd a h       b. ep d T       c. uj j N h i f       d. kwj p
   ‘Mnemonics’ is related to
   a. Pneumonia       b. Memory       c. Anaemia       d. Amnesia

2. ‘$ l l h s p ; F O g ; gU t k ; v d W m i o f f g g L k ; gU t k ;’
   a. F o e j j g ; gU t k ;
   b. g s j s g g U t k ;
   c. F k u g ; gU t k ;
   d. e L j j u t a j gU t k ;
   ‘Gang age period’ is
   a. Infancy       b. Childhood       c. Adolescence       d. Middle age.

3. ‘t B r h f q f s ; G h g t h p k ; J z p r y ; k W W k ; ______ k p e j f h z g g L k ;’
   a. g h T       b. m d G       c. c l y t y p k       d. k d t y p k
   Adventurers have more braveness and
   a. sympathy       b. love       c. physical strength       d. mental strength.

4. ‘k d p k d n t O r r a p l ; n t s m g g h L f B f h Z k ; t h p r a y ; m i k A k ; v d k f c f y ; f U j f p h w ;’
   a. n r a y ; → c z h T → m w h       b. m w h → # o e p y → c l y a f f k ;
   c. m w h → c z h T → c l y a f f k ;

NOTE: CHILD DEVELOPMENT AND PEDAGOGY – ANSWER KEYS WILL BE UPDATED SHORTLY
McDougall says that the emotional expressions of human being occur in which of the following sequence?

a. Action → Affection → Cognition
b. Cognition → Environment → Conation
c. Cognition → Affection → Conation

d. Emotion → Affection → Cognition

6. Uggj py;rmefj t w F oej j F t oqf kd p, d k; f l d gl L s s j v d
   l . e h . r i g ____ y . gmfl d g g L j j p a j .
   a. 1969> M f j l ; 15;
   b. 1969> V g u y ; 20
   c. 1959> __ i y 16
   d. 1959> et k g h ; 20
   “It is the duty of mankind to give the best to the children” – UNO proclaimed it on
   a. 1969, August 15
   b. 1969, April 20
   c. 1959, June 16
   d. 1959, November 20.

7. Mr R k w A k ; k p l ; C I f q f s p ; k d d p y g g L j j g g l N t z b a i t
   a. t h o f i f a p l ; V W W f n h s s f $ ba v j b k i w a h d g f j p
   b. t h o f i f a p l ; V W W f n h s s f $ ba N e h k i w a h d g f j p
   c. t h o f i f a p l ; N e h k i w a v j b k i w a h d g f j p
   d. t h o f i f a p l ; k f p r r a w w g f j p
   Print media and electronic media must project
   a. acceptable negative side of life
   b. acceptable positive side of life
   c. positive and negative sides of life
   d. seamy side of life

8. Mr pha h U j j gngho p K i w i a m b f f b g a d g L j j t j d ; y k ; __________
   a. M f f j j p d ;
   b. Ez z w p
   c. G y d f h r p
   d. e p d T
   With the frequent use of brain storming method the teacher develops
   a. Creativity
   b. intelligence
   c. perception
   d. Memory

9. j p d h a T r ; r p j i d i a j ; J z L t j
   a. K d ; % i s
   b. t y j % i s
   c. l j % i s
   d. g p l ; % i s
   Critical thinking is induced by
   a. fore brain
   b. right brain
   c. left brain
   d. hind brain

10. i r d b f j ; v d D k ; M q f p r ; n r h y p l ; n g h U s ;
    a. g y N t W n g h U s f i s s g g b j y ;
b. gyNT WnghUs fi s xUqf i p z j j y;
c. nghUf fi s xggbj j y;
d. gyNT WnghUl fi s t bt i kj j y;
The word ‘synatics’ means
a. segregating different things
b. organising different things
c. comparing things
d. designing different things

11. j df F k; gpWUf F k; kf p r rAk; gaD k; t p s f pl wt i fa y; vy y he p yfs y k; nghUj j gghL i d; nray gLt j
   a. #o; epiy rhh; ej J
   b. kd ey k; rhhe ej j
   c. kd gghd j k rhh ej j
   d. nghUs hj huk; rhhe ej j
Adjusting in all stages and making happiness and usefulness to self and others is
   a. based on environment  b. based on mental health
c. based on attitude  d. based on economy

12. ft d j j pl ; Cr y hL k; j d j k a pl ; f hy ms T
   a. 5 – 20 t pl hbf s ;
   b. 10 – 15 t pl hbf s ;
c. 3 – 25 t pl hbf s ;
   d. 7 – 10 t pl hbf s ;
Period of fluctuation of attention is
   a. 5 – 20 seconds  b. 10 – 15 seconds
c. 3 – 25 seconds  d. 7 – 10 seconds

13. SQ3R Ki wahy; NkkgL j j ggLt j
   a. f t d k ;
   b. eh l j k ;
   c. C f f k ;
   d. ep d T
SQ3R method enhances
   a. attention  b. aptitude  c. motivation  d. memory

14. , d W j p f s ; f pi k > ehi s k Weh S f F Ke j ja f pi k __________
   , j vej t i f Nh hj i d ?
   a. nghj mwj
   b. Ghe j nh f s S j y ;
   c. fz p M aT
   d. nr hw f S Or rAk ;

Today is Monday, the day before after tomorrow will be _____
What type of test is this?
   a. General knowledge  b. Understanding
c. Mathematical research  d. Vocabulary
15. x gghh; F O vd g 1 15 %yk; VwgL f pvj
   a. M r pah+ fl L gghl hd # oy;
   b. n gwNwhh+ Rj ej pkhd # oy;
   c. r %fk;,+ fl L gghl hd # oy;
   d. vj jghuhky+ Rj ej pkhd # oy;
Peer group is formed by
   a. Teacher + Controlled environment
   b. Parents + Independent environment
   c. Society + Controlled environment
   d. Unexpected + Independent environment

16. f wvy; # oy py; f B; c s s t Wm5 ; r hshd t h r vj ?
   a. ft hr r p → ft d k; → ep d T;
   b. ep d T → ft d k; → ft hr r p
   c. ft d k; → ft hr r p → ep d T;
   d. ep d T → ft hr r p → ft d k;
Which of the following is the correct sequence in learning environment?
   a. Interest → Attention → Memory
   b. Memory → Attention → Interest
   c. Attention → Interest → Memory
   d. Memory → Interest → Attention

17. ______ e p y ay; F oei j fs hy; f Uj j f f i s c Ut h f f , aY k;
   a. NgRt j wF K d ghf
   b. NgM u g g j T l d;
   c. g s i s g; gUt j j py;
   d. g s i s g; gUt j j py F g; gad l
Children are capable of forming concepts
   a. before verbalization
   b. soon after verbalisation
   c. during childhood
   d. after childhood

18. t s hr r s; r h h n ray f s; v d w f Uj i j K j d ; K j y y; gad gl j j a t h;
   a. n` hghh;   b. G& d h;
   c. ` y;
   d. ` h t p h ] !;
The concept of developmental task was first used by
   a. Herbart
   b. Bruner
   c. Hull
   d. Havighurst

19. v y y h khz t h h S f F k; x Nu kj p hahd nr ay f i s f; nf hL j j h Y k; mt h f s;  
   nt t Nt Wt p k h f g; Ghej n f h s t j w f f; f huz k;
   a. g hy pl k;
   b. f wvy; F i wghL
   c. mD gt k;
   d. kuG
Because of ______ the students understand in different ways though they are given same type of activities.
20. RTE v d g j d ; t ñ ¿ h f k;
   a. Right of children to free and compulsory education
   b. Right to teacher education
   c. Right of children to education
   d. Right towards education.

Expansion of RTE is
   a. Right of children to free and compulsory education
   b. Right to teacher education
   c. Right of children to education
   d. Right towards education.

21. f hehNghj`l Nul > Gj k; mf p a t w p l t s h r j khw w j j x O q F g L j j t J
   a. , d R y j d ; b. i j u h f r j d ; c. m l h e y y j d ; d. M d r j h r j d ;
Hormone which regulates the carbohydrate and protein metabolism is
   a. Insulin  b. Thyroxine  c. Adrenaline  d. Oxytocine

22. ‘mk ¿ h x U t g y q F m y y ’ v d g l
   a. F i w g j n g h j i k g g i l j j y ;
   b. k j f g l n g h j i k g g i l j j y ;
   c. f h u z q ; f w g j j y ;
   d. m i l a h s q ; f h Z j j y ;
'Amoeba is not an animal', it is
   a. restricted generalization
   b. extended generalisation
   c. rationalization
   d. identification

23. g a h N t p l ; f U j j g g b j d j d i k a k h f j p r e j F k ; j d j k f h z g g L k ;
   g U t k ;
   a. G y d ; , a f f g ; g U t k ;
   b. k d r ; n r a y g h i L F K e i j a g U t k ;
   c. f z $ l h f g ; g h n g g i j f ; n f h z L r e j F k ; g U t k ;
   d. K i w a h d k d r n r a y g h i L g U t k ;
According to Piaget, Egocentrism occurs in
   a. sensory motor stage
   b. pre-operational stage
   c. concrete operational stage
   d. formal operational stage.

24. k h a x y p N j h d w f ; f h u z k ;
   a. n r t F i w g h L k ;
   b. r p l k ;
   c. n g h w h i k
d. f t i y
Reason for auditory hallucination is
25. a. auditory defect   b. anger   c. jealous   d. worry

Inferiority complex plays a vital role in causing the disease
a. Asthma b. Skin disease c. Diabetes d. Joint pain


Praising or criticising affects the success of the child is said by

27. a. competitive learner b. participatory learner c. pair learner d. individual learner

28. a. competitive learner b. participatory learner c. pair learner d. individual learner

Rate of learning =

\[
\frac{\text{Amount of learning proficiency achieved}}{\text{time taken to achieve the amount of learning}}
\]

\[
\frac{\text{Amount of the content learnt}}{\text{time taken to achieve the amount of learning}}
\]
29. Amount of learning proficiency achieved
    amount of content

d. Amount of the content learnt
    Amount of the curriculum

29. By employing domesticated and trained pigeon, bringing down the wild pigeons sitting on temple towers is
    a. Trial and error learning  b. Observation learning  c. Operant conditioning   d. Classical conditioning

30. If a response is responsible for the extinction of unpleasant stimuli, it is
    a. positive reinforcement   b. extinction  c. negative reinforcement   d. punishment

TAMIL

31. Nehaf F kUeJ , yff p;k;vd W$ wath h;
    a. fi y t hz h  b. kf ft hjt gp; t h d ;k@ h l rRej ud h h  c. ft p z p d. ghuj p h rd ;

32. unkF k; d ;r hj huz  kd p uyy h;mt h i w t d j e ; g;ghR vd f ;$ wath h;
    a. Ngh < bngy < bngy;  b. vbrd;  c. y h h l n k z l y z l ;  d. hh hy j;

33. th z p h rd ;gme j C h ;
    a. kj i u  b. N f us h  c. t q f hs k;  d. t i y a D J h

34. kj i u t P b s pl ;ngah f s g y ; j x d w y
    a. $ y t P p  b. nghd t P p  c. kd d h t P p  d. ghz h t P p

35. c yi f Na e L q fr ; nra j nf h l q N f hy uh f ` p y h ; U ej h y k > m t i u Na
46. jQR; ngha Nhaphy; FIKOF eil ngww Mz L
   a. $ppp1010   b. $ppp1500.
   c. $ppp1020   d. $ppp2000

47. nghUs; $ Wf: F it
   a. $ l | k;   b. F tay;  c. F kg y;  d. Nh hj j;

48. ef $ Lfsyp; goi kahd J vj ?
   a. N f e d;  b. k f $ y GJ h;
   c. m f u h p   d. r J u f u h p

49. mwbaay; fi yrnrh; fs Qrak; ______ M z L nt s ap D ggl L J

50. M qfMyai uvj bj J MA j k; Vej g; Nghuhba K j yh; nz k p
   a. N Yehrjahh   b. mQri yakkh;
   c. mkQ j j kkhs;   d. i t K. Nh hj eahf pmkkhs;

51. nt s t hy; kuj j g y;
   a. nhj hqFk;   b. c wqFk;   c. MLk;   d. Uf F k;

52. Nh hbl L , lj j emgGf:
   ft $ z pNj r j t eahf k; gji s , awwpE y; ______
   a. ghz bad; ghR   b. ghggh ghL
   c. FLkgt p F   d. c khfajh; gh y f s;

53. vOj hs h; nj h L vOj $ l h j i k
   a. ngUik   b. nghaj k   c. j j a k   d. cz j k

54. ______ vd D k; E $ y y; nj h z JWXd gI t i fahd Gf s pl; ngahs s; Uej d.
   a. Kyj yghL   b. F wQr ggh L
   c. gl bd gghi y   d. gj pWggj j

55. gw tfi s t i fah g; gmb y h k;
   a. lej   b. ML   c. %d W   d. vl L

56. eNt j d k; vd wnrhy ypl; nghUs;
   a. cz T   b. mWRi t cz T
   c. ey; cz T   d. gI l a K J.
57. \[f \text{ d f k ; v d } g \text{ j d ; n g h } U \text{s ;} \]
   a. \(n r y \text{ t k ;} \) b. \(n g h d ; \) c. \(k z \text{ p ;} \) d. \(K j j \)

58. \[k h d \text{ t p a k ; v d } D k ; e h l \text{ f k ; } \] ______ \(v d \) \(D k ; \), \(y f f \) \(a j i j \) \(m b g g i \) \(l \) \(a h f f ; \)
   a. \(f h h ; e h w g l \) b. \(f s t o p e h w g l \) c. \(m f \) \(e h D \) \(J W \) d. \(G w h D \) \(J W \)

59. \[j k p ; e h l \] \(f j ; j e i j \) \(v d \) \(W \), \(d \) \(w s \) \(T k ; \) \(c \) \(y f k ; N g h w w p t \) \(z \) \(q F \) \(g t \) \(h ; \)
   a. \(g k k y ; r k g e j d \) \(h h \) b. \(g l \) \(L f \) \(N f h l j l \) \(I \) c. \(r q f u j h r T r h k p s ; \) d. \(n j . n g h . f \) \(w \) \(z \) \(r h k p \)

60. \[f h a f s p l ; , s i k \] \(k u G n g a i \) \(u v L j j \) \(v O j f . \)
   \(m t i u g G Q R \) \(t \) \(h i o \) ______
   a. \(G + \) b. \(f h a ; \) c. \(f r r y ; \) d. \(R \%

PART III – LANGUAGE PAPER
ENGLISH

61. Find the italicized part in the sentence that is incorrect:
   In some Countries in Europe teachers are allowed giving children some home work only at weekends
   1 2 3
   a. 1 b. 2 c. 3 d. 4

62. Choose the correct form of the verb to complete the sentence:
   When _____ this morning?
   a. did you woke up b. did you wake up c. have you woken up d. were you woke up

63. Choose the correct answer form of the verb to complete the sentence:
   We _____ volleyball yesterday
   a. played b. have played c. had played d. have been playing

64. Choose the correct word to complete the sentence:
   There is very _____ petrol in the car. I'll buy some when I go out.
   a. few b. much c. a little d. little
65. Choose the correct word to complete the sentence:
He apologized _____ being late
a. to       b. for       c. on       d. of

Read the passage given below and choose the best answer for each of the questions

Most human beings are awake during the day and sleep at night. Owls live the opposite way. Owls are nocturnal. This means that they sleep all day and stay awake at night. Because owls are nocturnal, this means they must eat at night. But finding food in the dark is difficult. To help them, they have a special eyes and ears.

Owls have very large eyes. These eyes absorb more light than normal. Since there is little light during the night. It is helpful to be able to absorb more of it. This helps owls find food in the dark.

Owls also have very good hearing. Even when owls are in the trees, they can hear small animals moving in the grass below. This helps owls catch their prey even when it is very dark.

Like owls, mice are also nocturnal animals. Mice have an excellent sense of smell. This helps them find food in the dark.

Being nocturnal helps mice to hide from many different animals that want to eat them. Most of the birds, snacks and lizards that like to eat mice sleep at night – except, of course, owls!

66. The word ‘diurnal’ is the opposite of the word ‘nocturnal’. Using information in the passage, we can understand that an animal that is ‘diurnal’
 a. sleeps at night and is awake during the day  
 b. hunts during the day and is awake at night  
 c. sleeps every other night and is awake during the day  
 d. hunts at night and sleeps during the day

67. Based on information in Paragraph 2, it can be understood that an animal with small eyes
a. must be diurnal  b. **has trouble seeing in the dark**
c. can see very well at night  d. must be nocturnal

68. According to the passage, owls can find food in the dark using their sense of
   a. sight only  b. **sight and sound**
   c. sight, sound and smell  d. sight and smell

69. In paragraph 3 the author writes. “This helps owls catch their prey even when
   it is very dark”. What is prey?
   a. A noise that an animal makes during the night
   b. A small animal such as a pet dog or cat
   c. **An animal that is hunted by other animals**
   d. An enemy

70. According to the passage, mice sleep during the day in order to
   a. find food that other animal cannot
   b. **keep themselves safe**
   c. store energy for night time activities
   d. stay awake at night

71. Using the information in the last paragraph, it can be understood that
   a. **owls hunt mice**
   b. mice can hide from owls
   c. mice and owls both hide from birds, snakes and lizards
   d. owls sleep at night

72. Which of the following conclusions would work best at the end of this passage?
   a. The owl is a nocturnal animal. This means it is active at night. The owl’s excellent sense of sight and sound enables it to find food in the dark.
   b. Mice are nocturnal animals. This means they are active at night. Similar to the owl. Mice use their excellent sense of smell to find food in the dark
   c. **Some animals are nocturnal. This means they are active at night. The owl and the mouse are good examples of animals but the use their senses to find food in the dark**
   d. The owl and the mouse sleep during the day and stay awake at night
73. Choose the right question to get italicized part as the answer
   The Children are sitting in the garden
   a. Where do children sit?
   b. Where have the children been sitting?
   c. **Where are the children sitting?**
   d. Where are they sitting?

74. Find out the pronounced differently from the others
   I. blood
   II. moon
   III. soon
   IV. mood
   a. I  b. II  c. III  d. IV

75. Find the word that is pronounced differently from the others
   I. bear
   II. dare
   III. fare
   IV. dear
   a. I  b. II  c. III  d. IV

76. Find the word that is pronounced differently from the others
   I. enjoyed
   II. jumped
   III. died
   IV. filled
   a. I  b. II  c. III  d. IV

77. Find the italicized part in the sentence that is incorrect
   It is a **well** idea to encourage boys to learn to cook
   1   2  3 4
   a. 1  b. 2  c. 3  d. 4

78. Choose the word which has almost the same meaning as the italicized one
   I help them to **assemble** the different parts
   a. manufacture  b. store  c. check  d. fit

79. Choose the correct antonym for the italicized word
   Travelling is considered very **dangerous**
   a. harmful  b. peaceful  c. safe  d. exciting
80. Choose the correct antonym for the italicized word
   This is a *common* thing
   a. strange       b. funny       c. real       d. special

81. Read the short conservation given below. Identify the language function in the italicized sentence.
   Shrimathy: That remark was uncalled for
   Venu: I'm Sorry. I shouldn't have said it
   a. apologizing   b. wishing  c. blaming  d. forgiving

82. Read the short conservation given below. Identify the language function in the italicized sentence.
   Arun: What shall we do this weekend?
   Sheela: Why don't we go on a picnic?
   a. welcoming  b. inviting  c. suggesting  d. advising

83. Choose the correct question tag
   Mary has answered all the questions .................?
   a. don't she  b. didn't she  c. wasn't she  d. hasn't she

84. Choose the correct question tag
   Hanif wasn't listening ............?
   a. was he  b. has he  c. did he  d. isn't he

85. Choose the right question to get the italicized part as the answer.
   Hari is writing a letter
   a. What does Hari write?  b. What is Hari writing?
   c. Who is writing a letter?  d. What is Hari doing?

86. Choose the correct word to complete the sentence
   We are satisfied ............ our son's progress this term
   a. for  b. on  c. about  d. with

87. Which of the following is a form of the verb 'be'?
   a. may  b. am  c. can  d. will
88. The passive form of the sentence ‘The Blue team won the game’ is
   a. The game is won by the blue team
   b. The game has been won by the blue team
   c. The game had been won by the blue team
   d. [the game was won by the blue team]

89. The reported form of the question Renu said to me, “Is the movie interesting?”
   is
   a. Renu asked me if the movie was interesting
   b. Renu asked me if the movie has been interesting
   c. Renu asked me if the movie is interesting
   d. Renu asked me if the movie had been interesting

90. Choose the word which has almost the same meaning as the italicized one
   She seldom goes to conference
   a. nearly  b. rarely  c. slightly  d. incredibly

PART IV
MATHEMATICS

91. The sales tax on a refrigerator at the rate of 9% is Rs. 1,170, then the actual sale price is
   a. Rs. 10,530    b. Rs. 12,960   c. Rs. 13,000   d. Rs. 20,000

92. Ramu is now half as old as his father. Fifteen years ago the father’s age was three times as old as Ramu. Then their present ages are
93. a. 42, 84 b. 24, 84 c. 40, 80 d. 24, 48

93. Easwari deposited Rs.350 per month for 6 years in a recurring deposit account in a post office. If she received Rs.32,865, then the rate of interest is
a. 6% b. 10% c. 15% d. 8%

94. a. 6% b. 10% c. 15% d. 8%

94. The radius and height of a cylinder are in the ratio 5 : 7. If its volume is 440 cu. cm then the radius of the cylinder is
a. 10 cm b. 25 cm c. 15 cm d. 20 cm

95. a. 10 cm² b. 25 cm² c. 15 cm² d. 20 cm²

96. a. 140 cm² b. 256 cm² c. 252 cm² d. 272 cm²

96. The three angle bisectors of a triangle are concurrent and the point of concurrence is called the
a. circumcentre b. orthocenter c. centroid d. incentre
97. If two circles of radii \( r_1 \) and \( r_2 \) touch internally, the distance between their centres is equal to
   a. \( r_1 + r_2 \)  
   b. \( 2r_1 \)  
   c. \( 2r_2 \)  
   d. \( r_1 - r_2 \) 

98. A, B, C can do a work in 12, 15 and 20 days respectively. They all work for one day. Then B leaves the group. In how many days will A and C complete the rest of the work?
   a. 8 days  
   b. 7 days  
   c. 9 days  
   d. 6 days 

99. Area of a trapezium is 33.32 cm\(^2\). Its one side is 8 cm and height 5.6 cm, then the another side is
   a. 11.9 cm  
   b. 3.9 cm  
   c. 8.9 cm  
   d. 5.9 cm 

100. The mean of the mode and median of the following data 17, 15, 9, 13, 24, 7, 12, 21, 10, 24 is
    a. 21  
    b. 24  
    c. 19  
    d. 14 

101. The equation given is \( x - y = 6, xy = 4 \) and \( x^3 - y^3 = d \). The value of \( d \) is
    a. 272  
    b. -288  
    c. 248  
    d. 288
If \( x - y = 6 \) and \( xy = 4 \) then the value of \( x^3 - y^3 \) is
\[
\begin{align*}
a. & \ 272 \\
b. & \ -288 \\
c. & \ 248 \\
d. & \ 288 \\
\end{align*}
\]
102. \( x^3 - 3x^2 - x + 3 \) is
\[
\begin{align*}
& \text{If one of the factors of the expression } x^3 - 3x^2 - x + 3 \text{ is } (x + 1), \text{ then the other factors are} \\
& \begin{align*}
a. & \ (x - 1), (x - 3) \\
b. & \ (x - 1), (x + 2) \\
c. & \ (x + 1) (x + 3) \\
d. & \ (x + 1), (x - 3) \\
\end{align*}
\end{align*}
\]
103. Two numbers are in the ratio 5 : 3. If they differ by 18, then what are the numbers?
\[
\begin{align*}
a. & \ 42, 57 \\
b. & \ 54, 72 \\
c. & \ 45, 27 \\
d. & \ 47, 52 \\
\end{align*}
\]
104. The LCM of \( 3a^2 bc, 5 ab^2 c, 7 abc^2 \) is
\[
\begin{align*}
a. & \ 35 a^2 bc^2 \\
b. & \ 105 a^2 b^2 c^2 \\
c. & \ 15 a^2 b^2 c^2 \\
d. & \ 105 abc \\
\end{align*}
\]
105. The cost price of 11 pens is equal to the selling price of 10 pens. The profit percent is
\[
\begin{align*}
a. & \ 10\% \\
b. & \ 100\% \\
c. & \ 11\% \\
d. & \ 21\% \\
\end{align*}
\]
106. A park is in the shape of semicircle with radius 14 m. The cost of fencing it at the cost
of Rs.8 per metre is
a. Rs.577 b. Rs.657 c. Rs.756 d. Rs.765

107. Rahul invested Rs.5,000 at the rate of 8% simple interest per annum. Hereceived Rs.5,800 after some years. The number of years is
a. 3 years b. 2 years c. 4 years d. 5 years
A garden is in the form of a rectangle of dimension 30 m x 20 m. A path of width 1.5 m is laid all around the garden on the outside at the rate of Rs.6 per sq.m. What is the total expense?

a. Rs.495    b. Rs.754    c. Rs. 854    d. Rs. 954

111. \( \sqrt[4]{40} + 3\sqrt{625} - 4\sqrt{320} \)

a. 16\( \sqrt{2} \)

b. 5\( \sqrt{3} \)

c. 3\( \sqrt{5} \)

d. 3\( \sqrt{4} \)

simplify: \( 2\sqrt{40} + 3\sqrt{625} - 4\sqrt{320} \)

a. 16\( \sqrt{2} \)

b. 5\( \sqrt{3} \)

c. 3\( \sqrt{5} \)

d. 3\( \sqrt{4} \)

112. \( \angle BAC = 65^\circ \) \( \angle BAE = 58^\circ \) \( \angle ABC = \) ?

a. 180°    b. 90°    c. 57°    d. 123°

113. \( 42^\circ \) \( 240^\circ \) i kaf \( 9^\circ \) \( 28^\circ \) ehl;fspy; Kbg;gh;

mNj Ntiyia Kbg;gh?

a. 20 ehl;fs;

b. 18 ehl;fs;

c. 28 ehl;fs;

d. 24 ehl;fs;
Eight men working 9 hours a day can do a piece of work in 28 days. In how many days will 12 men working for 7 hours a day do the same work?

a. 20 days  

b. 18 days  

c. 28 days  

d. 24 days

115. The largest of 100 measurements is 3.84 kg. If the range is 2.46 kg, then the smallest measurement is

a. 1.38 kg  

b. 3.38 kg  

c. 2.38 kg  

d. 6.30 kg

116. The measures of the angles of a triangle are in the ratio 2 : 4 : 6, then the angles of the triangle are

a. 30°, 60°, 90°  

b. 20°, 70°, 90°  

c. 40°, 60°, 80°  

d. 26°, 58°, 96°

117. If \( x = 2 + \sqrt{3} \), then the value of \( x^2 - \frac{1}{x^2} \) is

a. 14  

b. \( 8 \sqrt{3} \)  

c. \( 4 \sqrt{3} \)  

\( d. 0 \)
118. The distance between two places is \( \frac{2}{3} \) km. If a two wheeler takes \( \frac{2}{3} \) hours to cross the distance, then what is the speed of the two wheeler?

a. 25 km  

b. 40 km  

c. 35 km  

d. 20 km

119. The next number of the sequence 1, 2, 5, 6, 14, 24, 30, 120, .......

a. 91  

b. 55  

c. 720  

d. None of these

120. \( \frac{4}{5} + \frac{7}{2} \div \left( \frac{5}{2} - \frac{3}{4} \right) \times \frac{7}{8} \) is equal to

a. \( \frac{16}{20} \)  

b. \( \frac{35}{20} \)  

c. \( \frac{211}{20} \)  

d. \( \frac{51}{20} \)

Part V – Environmental Studies

121. Marconi invented the radio with the help of the invention made by

a. Vikram A. Sarabhai  

b. Jagadish Chandra Bose
c. Charles Babbage  d. Pascal

122. Identify the wrong pair with reference to milking animals
a. Gir, Sindhi  b. Jersey, Caronswiss
c. Gir, Murrah  d. Sindhi, Jersey

123. A typical example of visual, non project 3-D aid is
a. Realia  b. Television
c. OHP  d. Radio

124. Which of the following is the odd criterion of a good test
a. Objectivity  b. Acceptability
c. Reliability  d. Clarity

125. The philosophy behind the project method is
a. naturalism  b. idealism
c. constructivism  d. Pragmatism

126. Melagiri hills is situated in the district of
127. Mamallapuram and chengalpattu are famous for which work
   a. Weaving of silk    b. Soap stone carving
   c. Red and black pottery   d. Granite carving

128. A student after receiving the content of a subject, is able to analyse the content. The behavioural change belongs to the domain/s
   a. cognitive and affective    b. cognitive only
   c. affective and psychomotor   d. affective only

129. “Lesson plan is the outline of the important points of a lesson arranged in order in which they are to be presented to the students by the teacher”.
This definition is of
   a. International Dictionary of Education
   b. Lester B. Stands
   c. W. M. Ryburn
   d. Bining and Bining

130. Which chart is used to present the growth of a family right from their ancestors
   a. Flowchart     b. Tablechart
   c. Treechart     d. Timechart
131. A child is suffering from bleeding gums and loosening of teeth. The names of
the disease and the vitamin that is deficient are
a. Scurvy, Vitamin C   b. Haemorrhage, Vitamin K
b. Haemorrhage, Vitamin K   d. Pellagra, Vitamin B12

132. The part where cones are densely packed within the right eye is
a. sclerotic coat   b. choroid coat
b. choroid coat   d. fovea

c. lens   d. fovea

t y j f z z p l ; v g g F j p a y ; s k G n r y f s ; m l h j p a h f h z g g L f p y ?
a. ] f i s b u h c i w   b. N f h u h a l ; c i w
b. N f h u h a l ; c i w   d. N g t p h

c. n y d j ;   d. N g t p h

133. A student of IVth class placed certain things in a first aid box. Find the odd
man out
a. forceps   b. sodium chloride
c. syringe   d. pair of scissors

eh d f h k ; t F g G g b F k ; k h z t K j Y j t p ; n g l b a p y ; f B f h Z k ; n g h U l f i s
i t j j s s h d ; ; j p ; t w h d j v j ?
a. L f f p   b. N r h b a k ; F N s h i u L
c. C r p % y k ; k U e j c l n r Y j j k ; f z z h b F o y ;
d. f j j t h b N h y ;

d. f j j t h b N h y ;

134. The plant that has the best air purifying capacity in the world is
a. valisneria   b. bamboo
c. palm   d. jatropha

c y f p s s j h t u q f s p y ; k p j ; j p w k g l f h w i w R j j p h p F k ; j d i k A i l a
j h t u k ; v j ?
a. t h y p e b a h   b. % q f p y ;
c. g i d   d. [ l N u h g h
135. A man is riding a bicycle. The motion(s) observed is(are)
   a. only linear motion                     b. only circular motion
   c. oscillatory and circular motions     d. **linear and circular motions**

136. The permanent employee of the village Panchayat is the
   a. President of the Panchayat
   b. Vice President of the Panchayat
   c. senior most citizen of the Panchayat
   d. **Secretary of the Panchayat**

137. If a person wants to cross the road where there is no zebra – cross, he has to
   a. look to his right and cross the road
   b. first look to his right, then left and then right again and cross the road
   c. look to his left and cross the road
   d. **first look to his right, then left and cross the road**

138. The wheel (chakra) on our National flag has the colour and the number of spokes respectively are
   a. **Navy blue, 24**                     b. Royal blue, 24
   c. Peacock blue, 22                   d. Cyan, 22
139. Bow and arrow was the emblem of which kingdom
a. Cholas   b. Chalukyas
c. **Cheras**   d. Pandyas

140. The traveler who came to India through the Kashmir valley during the reign of Harshavardhana was
a. Fa – Hien   b. **Hieun – Tsang**
c. Ibn Batuta   d. Megasthenes

141. Double fertilization occurs only in
a. salamander   b. fresh water fishes
c. **all seed producing flowers**   d. aquatic plants

142. The importance of the year 1983 with reference to wildlife is
a. Indian Board for wildlife was formed
b. **National wildlife Action plan was introduced**
c. Wildlife Protection Act came into force
d. Establishment of National Parks by the Government of India

143. The exotic variety of honeybee is
a. Apis dorsata   b. Apis florae
c. Apis indica  

, j y;vJ nts p Nh L Nj R t i f?  

a. Vgj ;N hh h j h  
b. Vgj ;Gh nhNh  
c. Vgj ; z bf h  
d. Vgj ;M kN h h d p  

144. Which one of the following is not true in respect of water  

a. Water in the aquifers is not useful to human beings  
b. Most of the fresh water reaches to the ocean through rivers  
c. The moisture in the soil indicates the presence of water  
d. Precipitation in the form of rain or snow provides fresh water to our earth.  

145. While burning the fuels the pollutant that reacts with Hemoglobin and makes the man leading to death is  

a. SO₂  
b. O₃  
c. CO  
d. CH₄  

146. Identify the correct match in respect of major plates and smaller plates of pangaea respectively  

a. Antarctica-North America  
b. South America-Africa  
c. Australian-Arabian  
d. Eurasia-Pacific  

147. Equal day and equal night happen on which of the following days  

a. March 21 st, September 23 rd  
b. May 18 th, December 20 th
c. January 14th, June 16th  d. June 20th, December 28th

a. cedar and oak  b. sal and teak
c. pine and walnut  d. babul and palmyra

148. The trees that are found in the forests where there is 100 cm of rainfall are
a. cedar and oak  b. sal and teak
c. pine and walnut  d. babul and palmyra

149. The metal, first used by human beings and the Indian State where it is found in plenty are
a. Iron, Orissa  b. Copper, Andhra Pradesh
c. Iron, Madhya Pradesh  d. Copper, Rajasthan
d. Copper, Rajasthan

150. As per which Article, the president of India is empowered to declare financial emergency
a. Article 352  b. Article 356
c. Article 360  d. Article 63
91. \[ml f f \ t \ y = \frac{1170 \times 100}{9} = 13000\]

*choice: C*

92. \[\frac{x}{y} = \frac{9}{100} \Rightarrow y = 2x\]

15 M z | f S f F K d d u;

\[y - 15 = 3(x - 15)\]
\[2x - 15 = 3x - 45\]
\[x = 30 \& y = 60\]

*Choice wrong*

93. \[K j P h j n h i f \ A = 32,865\]
\[n = 6 \times 12 = 72\]
\[P n Y j g g l \ l n h i f = p n = 350 \times 72\]
\[= 25200\]
\[N = \frac{1}{12} \left( \frac{n(n+1)}{2} \right) = \frac{1}{12} \times \frac{72 \times 73}{2} = 219\]

\[t l b = 32865 - 25200 = 7665\]
\[\frac{P N r}{100} = 7665 \Rightarrow r = \frac{7665 \times 100}{350 \times 219} = 10\]

*choice: C*

94. \[r : h = 5 : 7 \Rightarrow \frac{r}{h} = \frac{5}{7} \Rightarrow h = \frac{7r}{5}\]

\[\pi r^2 h = 4400\]
\[f d m s T = 4400 \pi r^2 \frac{7r}{5} = 4400 \Rightarrow r^3 = \frac{4400 \times 5}{22} = 1000\]
\[\therefore r = 10\]

*choice: a*

95. \[r J u j P l ; g u G = 21 \times 21 = 441\]
96. \text{c s t l i k a k;} (d)  
\text{choice : D}

97. \text{circle}

i k a q f \text{ f f , i l g g l n j h i y T = r}_1 - r_2  
\text{choice : d}

98. \text{A nra j N ti y a p l ; g F j p} = \frac{1}{12}  
\text{B nra j N ti y a p l ; g F j p} = \frac{1}{15}  
\text{C nra j N ti y a p l ; g F j p} = \frac{1}{20}  
\% t U k; N r e j x U e h s;  
nra j N ti y a p l ; ms T  
= \frac{1}{12} + \frac{1}{15} + \frac{1}{20}  
= \frac{5 + 4 + 3}{60} = \frac{12}{60}  
\text{K P k s s N ti y} = 1 - \frac{12}{60} = \frac{48}{60}  
\text{A k w A k; C N r e j n r a A k;}  
\text{N ti y a p l ; g F j p} = \frac{1}{12} + \frac{1}{20} = \frac{8}{60}
\begin{align*}
\text{Nt: } & y = \frac{48}{60} \frac{60}{60} \\
& = \frac{48}{60} \times \frac{60}{8} = 6
\end{align*}

\textbf{choice : d}

98. \quad \text{rup f j pl; gugG} = \frac{1}{2} h(a + b) = 33.32

\begin{align*}
a + b &= \frac{2 \times 33.32}{h} = \frac{2 \times 33.32}{5.6} = 11.9 \\
b &= 11.9 - a = 11.9 - 8 = 3.9
\end{align*}

\textbf{choice : b}

99. \quad \text{kj gGf i s VW t u f r a g; mi kff 7, 9, 10, 12, 13, 15, 17, 21, 24}

\begin{align*}
, i l e p y &= \frac{13 + 15}{2} = 14 \\
KfL &= 24
\end{align*}

\begin{align*}
, i l e p y &= \frac{14 + 24}{2} = 19
\end{align*}

\textbf{choice : C}

100. \quad x^3 - y^3 = (x - y)^3 + 3xy(x - y)

\begin{align*}
&= (6)^3 + 3(4)(6) = 216 + 72 = 288
\end{align*}

\textbf{choice : d}

101. \quad x^3 - 3x^2 - x + 3 = x^2(x - 3) - 1(x - 3)

\begin{align*}
&= (x^2 - 1)(x - 3) = (x - 1)(x + 1)(x - 3)
\end{align*}

\begin{align*}
(x + 1) &= xU f u z pvd g; kPK s s f u z p s; (x - 1)(x - 3)
\end{align*}

\textbf{choice : a}
102.

\[
\begin{align*}
\frac{x}{y} &= \frac{5}{3} \Rightarrow x = \frac{5y}{3} \\
x - y &= 18 \\
\frac{5y}{3} - y &= 18 \\
5y - 3y &= 54 \\
2y &= 54 \Rightarrow y = 27 \\
x &= 27 + 18 = 45
\end{align*}
\]

choice : C

103.

\[
\text{LCM} = 105a^2b^2c^2
\]

choice : b

104.

\[
\begin{align*}
t &\text{ pm } t \text{ p } y \times v f d f \\
10 \text{ Ngdf } f f s pl; t \text{ pm } p \text{ y } &= 10x \\
11 \text{ Ngdf } f f s pl; m l f f t \text{ p } y &= 10x \\
, y \text{ hkg}; &\text{ =} 11x \text{ - } 10 x = x \\
, y \text{ hg } r j t \text{ Pk}; &\text{ } \frac{x}{10x} \times 100 = 10
\end{align*}
\]

choice : a

105.

\[
\text{Gnf h pl ; Rwns } T = (\pi + 2)r
\]

\[
\begin{align*}
&= \left(\frac{22}{7} + 2\right) \times 14 = \left(\frac{22 + 14}{7}\right) \times 14 \\
&= 72
\end{align*}
\]

nry t HF k; nj hi f = 72x8 = 576

choice : a

106.

\[
\frac{Pnr}{100} = 800 \Rightarrow n = \frac{800 \times 100}{5000 \times 8} = 2
\]

choice : b
107. \[\text{jtwhd ruhrup} = 40\]
\[\text{jtwhd } \$\text{Ljy} = 100 \times 40 = 4000\]
\[\text{rupahd } \$\text{Ljy} = 4000 - 83 + 53 = 3970\]
\[\frac{\text{rupahd ruhrup}}{100} = 39.7\]
choice: a

108. \[5\text{vz } f\text{spd; } \$\text{Ljy} = 5 \times 32 = 160\]
\[4\text{ vz } f\text{spd; } \$\text{Ljy} = 4(32 - 4) = 112\]
\[\text{ePf ggl } vz; = 160 - 112 = 48\]
choice: C

109. \[\text{ghi j a pl; gugG } = (l + 2w)(b + 2w) - lb\]
\[= 33x23 - 30x20\]
\[= 759 - 600 = 159\]
\[\text{nry htf k; nj hi f } = 159 \times 6 = 954\]
choice: d

110. \[2\sqrt{40} + 3\sqrt{625} - 42\sqrt{320}\]
\[= 2\sqrt{8} \times 5 + 3\sqrt{25} \times 5 - 42\sqrt{64} \times 5\]
\[= 2 \times 2\sqrt{5} + 3 \times 5\sqrt{5} - 42 \times 4\sqrt{5}\]
\[= (4 + 15 - 16)\sqrt{5} = 3\sqrt{5}\]
choice: C

111. \[\angle BAE = 58^\circ\]
\[\angle ACB + \angle ABC + \angle BAE = 180\]
\[\angle ABC = 57^\circ\]
choice: C
112. \( \theta = \frac{\pi}{360} x \pi^2 \)

\[
= \frac{240}{360} \times \frac{22}{7} \times 42 \times 42 = 3696
\]

choice : b

113. \[ \begin{array}{ccc}
8 & 9 & 28 \\
12 & 7 & ?
\end{array} \]

\[ x = \frac{8}{12} \times \frac{9}{7} \times 28 = 24 \]

choice : d

114. \[ t_{PR} = kp_{ng.k} - kp_{rp.k} \]

\[ kp_{rp.k} = 3.84 - 2.46 = 1.38 \]

choice : a

115. \[ A : B : C = 2 : 4 : 6 = 1 : 2 : 3 \]

\[ A + B + C = 180 \]

\[ x + 2x + 3x = 180 \Rightarrow x = 30 \]

vd Nt Pf Iz qfs ; \( x, 2x, 3x \) vd f

choice : a

116. \[ x = 2 + \sqrt{3} \]

\[ \frac{1}{x} = \frac{1}{2 + \sqrt{3}} \]

\[ \frac{1}{x} = \frac{1}{2 + \sqrt{3}} \times \frac{2 - \sqrt{3}}{2 - \sqrt{3}} = 2 - \sqrt{3} \]

\[ x^2 - \frac{1}{x^2} = \left( x + \frac{1}{x} \right) \left( x - \frac{1}{x} \right) \]
\[(2 + \sqrt{3} + 2 - \sqrt{3})(2 + \sqrt{3} - 2 + \sqrt{3}) = 4(2\sqrt{3}) = 8\sqrt{3}\]

choice: b

117. \[nj \: hi \: y \: T = 61 \frac{2}{3} = \frac{185}{3} > Neuk; = 2 \frac{7}{15} = \frac{37}{15}\]

\[N: f: k; = \frac{185}{3} \cdot \frac{15}{37} = 25\text{ f: k: p}\]

choice: a

119. \[\frac{4}{5} + \frac{7}{2} \times \left(\frac{5}{2} - \frac{3}{4}\right) \times \frac{7}{8} = \frac{4}{5} + \frac{7}{2} \times \frac{7}{8}\]

\[= \frac{4}{5} + \frac{7}{2} \times \frac{7}{8} = \frac{4}{5} + 2 \times \frac{7}{8}\]

\[= \frac{4}{5} + \frac{7}{20} = \frac{51}{20} = \frac{21}{10}\]

choice: c

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