

DEECET – 2018

(MATHEMATICS) (EM)

Teaching Aptitude – SET - 1

1. The main aim of teaching is
 1. to admit students in school
 2. to develop reasoning, problem solving abilities among children
 3. to give information
 4. to assess students progress

2. The result of teacher and student interaction
 1. Facilitates effective learning
 2. Useful for teacher to write teaching notes
 3. Indiscipline in the classroom
 4. Can not complete syllabus in time

3. An effective teaching aid is
 1. Colourful and attractive
 2. Improves learning experience
 3. Highly expensive
 4. Used to decorate the classroom

4. Some of the children in your class are irregular to the school.
What do you do as a teacher?

1. Marks absent in the attendance register
2. Absentees may be punished
3. Inform to the headmaster
4. Know the reason for their absence from the students and their parents and try to address them

5. Students can learn more in this situation

1. By make the students listen silently while teacher is teaching the lesson
2. Students are allowed to note down point in their notebooks
3. Participate in learning activities such as discussion experiments and sharing views with in groups and within the class
4. Conduct exams regularly to achieve quantitative score

G. K. – SET - 1

6. The city named as 'Pink City'
 1. Delhi
 2. Bangalore
 3. Jaipur
 4. Mahabalipuram

7. Adams bridge (Rama Sethu) is located in
 1. Indian Ocean
 2. Bay of Bengal
 3. Arabian sea
 4. Mediterranean sea

8. India's place getting medals in 2018 Commonwealth games
 1. 3rd place
 2. 11th place
 3. 8th place
 4. 20th place

9. Government of Andhra Pradesh distributed under the scheme 'Badikosta' is
 1. Scholarships
 2. Teaching material
 3. Bicycles for girls
 4. Mid Day Meal

10. The person named as 'Harikatha Pitamahudu'
 1. Dwaram Ramaswami Naidu
 2. Tarigonda Vengamamba
 3. Adibhatla Narayana Dasu
 4. Gadiyaram Venkata Sesha Sastri

English – SET - 1

11. Read the following passage to answer the questions (11-12).

I am afraid to go out and to be uncovered my head in the sun now, because of the holes in the ozone. I am afraid to breathe the air, because I don't know what chemicals are in it. I used to go fishing in my home town, with my Dad, until just a few years ago we found the fish full of cancers. And now we hear about animals and plants going extinct every day.

In this passage, the speaker described:

1. the ways of fishing
 2. the problem of global warming
 3. the problem of killing animals for meat
 4. the problems of living in a city
12. Choose the correct synonym and the antonym of the word, 'uncovered' respectively
1. unveiled (synonym); concealed (antonym)
 2. revealed (synonym); cleared (antonym)
 3. unmasked (synonym); disclosed (antonym)
 4. showed (synonym); opened (antonym)
13. Choose the sentence with a defining relative clause.
1. Who takes another man's freedom?
 2. The people followed the principles that Mandela advocated.
 3. Which book do you like?
 4. I know who you are.

14. In an informal letter, the expression, 'Yours lovingly' is used in :

1. the heading
2. the opening
3. the body
4. the closing

15. Sir, can I leave this place?

The purpose of this sentence is:

1. giving an order
2. making a request
3. taking a permission
4. making a suggestion

Telugu – SET - 1

16. “సుభాషిత రత్నావళి” శతకాన్ని రచించినది
1. బద్దెన
 2. ఏనుగు లక్ష్మణకవి
 3. తిక్కన
 4. వేమన
17. సీత వినీలతోపాటు బడికి వెళ్ళింది. (ఈ వాక్యంలో షష్ఠీ విభక్తి ప్రత్యయాన్ని గుర్తించండి)
1. తో
 2. పాటు
 3. త
 4. కి
18. “వనజ చురుకైనది, అందమైనది”. ఈ వాక్యం
1. సంయుక్తవాక్యం
 2. నిషేధార్థకవాక్యం
 3. సామాన్యవాక్యం
 4. సందేహార్థకవాక్యం
19. ఆకాశంలో పక్షి ఎగురుతోంది. “పక్షి” పదానికి వికృతి గుర్తించండి.
1. పక్షము
 2. ప్రక్క
 3. పక్కి
 4. దిశ

20. “ఉన్నదంతా ఊడ్చుకుపోవడం” - ఈ జాతీయానికి అర్థం గుర్తించండి.

1. ఏరి కుప్పగా పోయడం
2. ఏమీ మిగలకుండా పోవడం
3. అనుకున్నదాని కన్నా ఎక్కువ పండటం
4. రాశులుగా పోయడం

1st Language English – SET - 1

21. Read the following passage and choose the correct answers

Breakfast is an important meal, particularly for children, as it breaks the fast of the sleep hours and prepares them for school and increases their attention span. Recent research provides compelling evidence that malnutrition even in its milder forms can have a detrimental effect on the cognitive development of children.

Breakfast can do the following in children:

1. It extends their concentration.
2. It improves their sleeping hours.
3. It wakes them from their sleep.
4. It damages their health.

22. Read the following passage and choose the correct answers

Breakfast is an important meal, particularly for children, as it breaks the fast of the sleep hours and prepares them for school and increases their attention span. Recent research provides compelling evidence that malnutrition even in its milder forms can have a detrimental effect on the cognitive development of children.

This passage says that:

1. preparing children for school is wrong.
2. breakfast leads to malnutrition.
3. malnutrition shows positive effect on the child's thinking.
4. nutritional deficiencies influence the child's behavior.

23. My problems are very similar yours.

Choose the correct preposition that fits the blank.

1. to
2. of
3. about
4. with

24. Identify the function of the linker, 'secondly'.
1. indicating result
 2. contrasting
 3. indicating similarity
 4. ordering points
25. Choose the expression with the correct order of adjectives.
1. a red beautiful umbrella
 2. a beautiful red umbrella
 3. a umbrella beautiful red
 4. a red umbrella beautiful
26. Choose the word with correct spelling.
1. exasperatedly
 2. exisperatedly
 3. exesperatedly
 4. exaspiratedly
27. Swaminathan felt humiliated at the eminence.
Choose the expression that does not mean 'humiliated'.
1. Make ashamed
 2. Encouraged
 3. Degraded
 4. Dishonoured

28. Identify the correct pair of words which are opposite in meaning.

1. desperation – calmness
2. desperation – anxiety
3. desperation – worry
4. desperation – nervousness

29. A sigh of relief rejuvenated their faces.

The word 'relief' in the above sentence is:

1. an adjective
2. an adverb
3. a noun
4. a verb

30. The following does not have a heading or a title.

1. a news report
2. an essay
3. a diary entry
4. a notice

Mathematics – SET - 1

31. The value of $(-1)^{2017} + (-1)^{2018}$ is
- 1
 - 0
 - 1
 - 4015
32. The sum of two rational numbers is 8 and one of the numbers is $-\frac{5}{8}$ then other number is
- $\frac{59}{8}$
 - $\frac{69}{8}$
 - 5
 - $-\frac{64}{5}$
33. The standard form of 123456789 is
- 1.23456789×10^8
 - $1.23456789 \times 10^{-8}$
 - 1.23456789×10^9
 - $1.23456789 \times 10^{-9}$

34. The diagonal of the cuboid with dimensions $9\text{cm} \times 12\text{cm} \times 20\text{cm}$ is (in cm)
1. 21
 2. 25
 3. 32
 4. 41
35. The Polynomial having 3, -2 as Zeroes is
1. $x^2 + 3x + 2$
 2. $x^2 + 3x - 6$
 3. $x^2 + x + 6$
 4. $x^2 - x - 6$
36. If A and B are two non empty sets then $A - B, B - A$ and $A \cap B$ are always
1. null sets
 2. equal sets
 3. equivalent sets
 4. disjoint sets
37. If the measures of two complementary angles are $(5x - 3)^\circ$ and $(8x + 15)^\circ$ then the supplementary angle of "x" is
1. 84°
 2. 174°
 3. 264°
 4. 354°

38. If the principal becomes three times in 15 years then the rate of simple interest per annum is

1. $12\frac{1}{2}\%$

2. $12\frac{1}{3}\%$

3. $13\frac{1}{3}\%$

4. 15%

39. The Arithmetic mean of first “n” natural numbers is

1. $\frac{n}{2}+1$

2. $\frac{n-1}{2}$

3. $\frac{n}{2}$

4. $\frac{n+1}{2}$

40. If a card is selected from number cards 1 to 20, then the probability that it is a prime number is

1. $\frac{2}{5}$

2. $\frac{1}{2}$

3. $\frac{3}{5}$

4. $\frac{3}{4}$

General Science – SET – 1

(Biology)

41. Muscle fibres that connect two bones in a human body are called
1. Ligaments
 2. Tendons
 3. Joints
 4. Ribs
42. Example for carnivorous plant
1. Drosera
 2. Mushrooms
 3. Algae
 4. Fungi
43. Bacteria which can be seen with unaided eye
1. Lactobacillus
 2. Steptobacillus
 3. Blue – Green bacteria
 4. Thiomargarita Namibiensis
44. Sieve cells are found in
1. Parenchyma
 2. Fibre
 3. Xylem
 4. Phloem

45. Nephridia are the excretory organs in

1. Annelida
2. Nematoda
3. Mollusca
4. Reptiles

General Science SET-1

Physical Science

46. Which of the following is used to measure the volume of an irregular solid
1. Graph paper
 2. Meter Scale
 3. Measuring Tape
 4. Measuring Cylinder
47. The acid present in vinegar is
1. Tartaric acid
 2. Malic acid
 3. Citric acid
 4. Acetic acid
48. A body is moving on a rough horizontal surface towards South. Then the direction of frictional force is towards
1. North
 2. South
 3. West
 4. East

49. Which of the following is a diatomic molecule
1. Nitrogen
 2. Argon
 3. Ozone
 4. Phosphorus
50. Which of the following pair of phenomena take place at the same temperature
1. Freezing and Condensation
 2. Boiling and Evaporation
 3. Melting and Freezing
 4. Boiling and Melting

Social Studies – SET - 1

51. Find out the true statement regarding “average”
- A) It is useful for comparison
 - B) It does not show the disparities among the people
1. A only is correct
 2. B only is correct
 3. Both A and B are correct
 4. Neither A nor B are not correct
52. Which among the following is not considered as ‘information’ according to R.T.I. Act?
1. Material in the form of press release
 2. Material in the form of e-mails
 3. Material in the form of logbooks
 4. Oral instruction of Headmaster to a teacher
53. The largest continental shelf is in
1. Pacific Ocean
 2. Atlantic Ocean
 3. Indian Ocean
 4. Arctic Ocean

54. 'Writ' means
1. An authority given to the court to issue directions to the government regarding constitutional rights
 2. An authority given to the government to issue directions to the court regarding constitutional rights
 3. An authority given to the government to issue directions to the people regarding constitutional rights
 4. An authority given to the court to issue directions to the people regarding constitutional rights
55. Most of the forests in Andhra Pradesh fall under the category of
1. Ever green forests
 2. Deciduous forests
 3. Thorny forests
 4. Littoral forests
56. Find out the list of movements that are arranged in correct chronological order.
1. Non – cooperation movement, Civil Disobedience Movement, Quit India Movement
 2. Civil Disobedience Movement, Non – cooperation Movement, Quit India Movement
 3. Civil Disobedience Movement, Quit India Movement, Non – cooperation Movement
 4. Non – cooperation Movement, Quit India Movement, Civil Disobedience Movement

57. The line that passes through Africa is
1. Tropic of cancer
 2. Tropic of Capricorn
 3. Equator
 4. All the above
58. According to chola inscriptions, 'Shala bhoga' is
1. The land for maintenance of a school
 2. The land gifted to Brahmins
 3. The land gifted to temples
 4. The land gifted to Jaina institutions
59. The state that doesn't share its boundary with Andhra Pradesh is
1. Odisha
 2. Tamilnadu
 3. Maharastra
 4. Karnataka
60. The first municipality in Andhra Pradesh is
1. Rajahmundry
 2. Tenali
 3. Srikakulam
 4. Bhimili

DEECET – 2018

Mathematics – SET - 1

61. If $f: A \rightarrow B$ is a function defined as $f(x) = x+1$ and $A = \{1,2,3\}$ then $f(A)$ is

1. $\{2,3,5\}$
2. $\{2,3,4\}$
3. $\{3,4,5\}$
4. $\{2,5,4\}$

62. The domain of the real valued function $f(x) = \sqrt{16-x^2}$ is

1. $[-4, 4]$
2. $(-4, 4)$
3. $[-4, 4)$
4. $(-4, 4]$

63. The trace of the matrix $\begin{bmatrix} 1 & 3 & -5 \\ 2 & -1 & 5 \\ 2 & 0 & 1 \end{bmatrix}$ is.

1. 2
2. -1
3. 0
4. 1

64. The adjoint of the matrix $\begin{bmatrix} 2 & -3 \\ 4 & 6 \end{bmatrix}$ is

1. $\begin{bmatrix} -2 & 3 \\ -4 & -6 \end{bmatrix}$

2. $\begin{bmatrix} 6 & -3 \\ 4 & 2 \end{bmatrix}$

3. $\begin{bmatrix} 6 & 3 \\ -4 & 2 \end{bmatrix}$

4. $\begin{bmatrix} 2 & 4 \\ -3 & 6 \end{bmatrix}$

65. The unit vector in the direction of vector $\bar{a} = 2\bar{i} + 3\bar{j} + \bar{k}$ is

1. $\sqrt{14}(2\bar{i} + 3\bar{j} + \bar{k})$

2. $\frac{1}{\sqrt{14}}(2\bar{i} + 3\bar{j} + \bar{k})$

3. $\sqrt{6}(2\bar{i} + 3\bar{j} + \bar{k})$

4. $\frac{1}{\sqrt{6}}(2\bar{i} + 3\bar{j} + \bar{k})$

66. Let \bar{a} and \bar{b} be non-zero, non-collinear vectors. If $|\bar{a} + \bar{b}| = |\bar{a} - \bar{b}|$ then the angle between \bar{a} and \bar{b} is

1. 360°

2. 180°

3. 90°

4. 0°

67. If $\sin \theta = \frac{4}{5}$ and θ is not in the first quadrant then the value of $\cos \theta$ is

1. $\frac{3}{5}$

2. $-\frac{3}{5}$

3. $\frac{9}{25}$

4. $-\frac{9}{25}$

68. The solution of $\tan^2 \theta = 3$ is

1. $n\pi + \frac{\pi}{3}$

2. $n\pi - \frac{\pi}{3}$

3. $n\pi \pm \frac{\pi}{3}$

4. $n\pi \pm \frac{\pi}{6}$

69. for all $x \in \mathbb{R}$, $\tan^{-1} x + \cot^{-1} x =$

1. 0

2. $\frac{\pi}{2}$

3. π

4. 2π

70. If $\cos hx = \frac{5}{2}$ then the value of $\cos h 2x$ is
1. $\frac{23}{2}$
 2. $\frac{25}{2}$
 3. $\frac{5}{4}$
 4. 5
71. The equation of locus of a point which is equidistant from the co-ordinate axes is
1. $x^2 + y^2 = 0$
 2. $x^2 + y^2 = 1$
 3. $x^2 - y^2 = 0$
 4. $x^2 - y^2 = 1$
72. If L_1, L_2 are two non – vertical straight lines with slopes m_1 and m_2 . Then the condition for L_1 and L_2 to be mutually perpendicular to each other is
1. $m_1 = m_2$
 2. $m_1 m_2 = 1$
 3. $m_1 m_2 \neq 1$
 4. $m_1 m_2 = -1$
73. The equation of the reflection of the line $x = 1$ in the y – axis is
1. $y = -1$
 2. $x = -1$
 3. $y = 1$
 4. $x = 0$

74. The point of intersection of the lines $x + y - 1 = 0$ and $x - y + 5 = 0$ is
1. $(2, 3)$
 2. $(-2, -3)$
 3. $(-2, 3)$
 4. $(2, -3)$
75. The acute angle between the pair of lines represented by the equation $x^2 + 2xy \cot \alpha - y^2 = 0$ is
1. 2π
 2. π
 3. $\frac{\pi}{2}$
 4. 0
76. The triangle formed by the points $(1,2,3)$, $(2,3,1)$ and $(3,1,2)$ is
1. equilateral triangle
 2. isosceles triangle
 3. right angled triangle
 4. right angled isosceles triangle.

77. If the direction cosines of a line are $\left(\frac{1}{c}, \frac{1}{c}, \frac{1}{c}\right)$ then the value of 'c' is

1. $\sqrt{3}$
2. $-\sqrt{3}$
3. $\pm\sqrt{3}$
4. $\pm\frac{1}{\sqrt{3}}$

78. The value of $\lim_{x \rightarrow 0} \frac{a^x - 1}{b^x - 1}$ ($a > 0, b > 0, b \neq 1$) is

1. $\log \frac{a}{b}$
2. $\log_b a$
3. $\log \frac{b}{a}$
4. $\log_a b$

79. If $x = a\cos^3\theta, y = a\sin^3\theta$ then $\frac{dy}{dx}$ is

1. $\tan \theta$
2. $-\tan \theta$
3. $\cot \theta$
4. $-\cot \theta$

80. If the increase in the side of a square is 4% then the approximate percentage of increase in the area of the square is
1. 2
 2. 4
 3. 8
 4. 16
81. If $Z_1 = (6, 3)$, $Z_2 = (2, -1)$ then $Z_1 - Z_2$ is
1. (4, 4)
 2. (-4, 4)
 3. (4, -4)
 4. (-4, -4)
82. If $x = \cos \theta + i \sin \theta$ then the value of $x^6 + \frac{1}{x^6}$ is
1. $2 \cos \theta$
 2. $2 \cos 6\theta$
 3. $2i \sin \theta$
 4. $2i \sin 6\theta$
83. The roots of the equation $x^2 - 7x + 12 = 0$ are
1. 3, -4
 2. -3, 4
 3. -3, -4
 4. 3, 4

84. If $-1, 2, \alpha$ are the roots of $2x^3 + x^2 - 7x - 6 = 0$ then the value of α is

1. $\frac{1}{2}$

2. $\frac{3}{2}$

3. $-\frac{3}{2}$

4. $-\frac{1}{2}$

85. The number of injections from a set A with 5 elements to a set B with 7 elements is

1. 5

2. 7P_5

3. 7C_5

4. 5P_5

86. The number of diagonals of a polygon with 12 sides are

1. 54

2. 12

3. 27

4. 48

87. The number of terms in the expansion of $\left(\frac{3a}{4} + \frac{b}{2}\right)^9$ is

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

88. Variance of 6, 8, 10 is

1. $\frac{3}{8}$
2. $\frac{4}{3}$
3. $\frac{8}{3}$
4. $\frac{3}{4}$

89. Two dice are thrown simultaneously. The probability of getting the same number on both the faces is

1. $\frac{1}{36}$
2. $\frac{1}{6}$
3. $\frac{2}{36}$
4. $\frac{2}{6}$

90. The probability distribution of a random variable X is given below

$X = x_i$	1	2	3	4	5
$P(X=x_i)$	k	2k	3k	4k	5k

Then the value of 'k' is

1. $\frac{1}{15}$
2. $\frac{2}{15}$
3. $\frac{3}{15}$
4. $\frac{4}{15}$

91. The length of the tangent from an external point $P(x_1, y_1)$ to the circle $S = 0$ is

1. S_{11}
2. $\sqrt{S_{11}}$
3. S_{11}^2
4. None

92. The centre of the circle $x^2 + y^2 + 2ax - 2by + b^2 = 0$ is

1. $(-a, b)$
2. $(-a, -b)$
3. $(a, -b)$
4. (a, b)

93. The equation of the radical axis of the circles $x^2+y^2 +2x+4y+1=0$,
 $x^2 + y^2 + 4x + y = 0$

1. $2x + 3y + 1 = 0$

2. $2x + 3y - 1 = 0$

3. $2x - 3y + 1 = 0$

4. $2x - 3y - 1 = 0$

94. The condition for a straight line $y = mx + c$ ($m \neq 0$) to be a tangent to the parabola $y^2 = 4ax$ ($a > 0$) is

1. $c = \frac{m}{a}$

2. $c = am$

3. $c = \frac{a}{m}$

4. $c + am = 0$

95. The length of the latus rectum of the ellipse $9x^2 + 16y^2 = 144$ is

1. $\frac{32}{3}$

2. $\frac{9}{2}$

3. $\frac{3}{32}$

4. $\frac{2}{9}$

96. The eccentricity of a rectangular hyperbola is

1. -1
2. 1
3. 2
4. $\sqrt{2}$

97. $\int \frac{1}{x} dx =$

1. $\log x$
2. $\log x + c$
3. $\log |x|$
4. $\log |x| + c$

98. $\int \frac{\cos x + \sin x}{\sqrt{1 + \sin 2x}} dx =$

1. $x + c$
2. x
3. $\frac{1}{x}$
4. $\frac{1}{x} + c$

99. $\int_0^{\frac{\pi}{2}} \sin^4 x \, dx =$

1. $\frac{\pi}{16}$

2. $\frac{2\pi}{16}$

3. $\frac{3\pi}{16}$

4. $\frac{5\pi}{16}$

100. The degree of the differential equation $\left(\frac{d^3y}{dx^3}\right)^2 - 3\left(\frac{dy}{dx}\right)^2 - e^x = 4$ is

1. 1

2. 2

3. 3

4. 4