

1. Ramanujan did his mathematical problems \_\_\_\_\_.  
a) black board                      b) on loose sheets of paper                      c) notebooks                      d) frayed books
2. At the age of \_\_\_\_\_ Ramanujan was sent a book on advanced trigonometry.  
a) 10                      b) 13                      c) 16                      d) 12
3. You can set the table \_\_\_\_\_ I'll start making dinner.  
a) therefore                      b) meanwhile                      c) except                      d) thus
4. I did not go out \_\_\_\_\_ the weather was hot.  
a) so                      b) therefore                      c) because                      d) although
5. \_\_\_\_\_ occupies more than a hundred square Kilometers on the moon.  
a) Astrodrome                      b) Orchards                      c) Metropolis                      d) Selenopolis
6. Mother was excited because \_\_\_\_\_.  
a) her son would be home in the spring                      b) her son was coming back to earth  
c) it was her first visit to the moon                      d) her son was going to another galaxy
7. Identify the speaker  
Operation duty..... report to office  
a) mother                      b) son                      c) the narrator                      d) a voice from the loudspeaker
8. Which university granted Ramanujan a fellowship of ₹ 75/month?  
a) University of Cambridge                      b) University of Oxford  
c) University of Madras                      d) Bharathiyar University
9. Choose the correct synonym of 'unkempt'  
a) rude                      b) neat                      c) not neat                      d) clean
10. Write in the other voice. They didn't invite me, but I went away/I \_\_\_\_\_ but I went anyway.  
a) wasn't invited                      b) wasn't inviting                      c) wasn't being invited                      d) wasn't being inviting
11. Which word could you replace 'rampaging' with?  
a) charging                      b) rolling                      c) speeding                      d) flying
12. Identify whether the following statement is an opinion or fact. A letter can hardly take the place of a talk.                      a) opinion                      b) fact                      c) opinion and fact                      d) none of these
13. The capacity of water tank of dimensions 10m× 5m ×1.5m is \_\_\_\_\_.  
a) 75 litres                      b) 750 litres                      c) 7500 litres                      d) 75000 litres
14. Total surface Area of cube is \_\_\_\_\_ sq.units.  
a)  $4a^2$                       b)  $6a^2$                       c)  $lbh$                       d)  $a^3$
15. The Semi-Perimeter of a triangle having sides 15cm, 20cm and 25cm is \_\_\_\_\_.  
a) 60cm                      b) 45cm                      c) 30cm                      d) 15cm
16. The lateral surface area of a cube of side 12cm is \_\_\_\_\_.  
a)  $144cm^2$                       b)  $196cm^2$                       c)  $576cm^2$                       d)  $664cm^2$
17. A cuboid has \_\_\_\_\_faces, \_\_\_\_\_edges and \_\_\_\_\_ vertices.  
a) 8,12,6                      b) 12,6,8                      c) 6,12,8                      d) 6,8,12
18.  $1m^3 =$  \_\_\_\_\_ litres.                      a) 100                      b) 1000                      c) 10000                      d) 10
19. If the ratio of the sides of two cubes are 2:3, then ratio of their surface area will be \_\_\_\_\_.  
a) 4:6                      b) 4:9                      c) 6:9                      d) 16:36
20. L.S.A of cuboid = \_\_\_\_\_sq. units.  
a)  $2(l+b)h$                       b)  $2(lb+bh+lh)$                       c)  $lbh$                       d)  $l+b+h$
21. \_\_\_\_\_ is the measure of the amount of space occupied by a three dimensional solid.  
a) L.S.A                      b) T.S.A                      c) Volume                      d) height
22. If  $\sin 30^\circ = x$  and  $\cos 60^\circ = y$ , then  $x^2 + y^2$  is  
a)  $\frac{1}{2}$                       b) 0                      c)  $\sin 90^\circ$                       d)  $\cos 90^\circ$
23. The value of  $\frac{2\tan 30^\circ}{1-\tan^2 30^\circ}$  is equal to \_\_\_\_\_.                      a)  $\cos 60^\circ$                       b)  $\sin 60^\circ$                       c)  $\tan 60^\circ$                       d)  $\sin 30^\circ$
24. If  $2 \sin 2\theta = \sqrt{3}$  then the value of  $\theta$  is \_\_\_\_\_.  
a)  $90^\circ$                       b)  $30^\circ$                       c)  $45^\circ$                       d)  $60^\circ$
25. Calorie is the unit of \_\_\_\_\_.                      a) heat                      b) work                      c) temperature                      d) food
26. The maximum speed of vibrations which produces audible sound will be in \_\_\_\_\_.  
a) sea water                      b) ground glass                      c) dry air                      d) human blood
27. Number of vibrations produced in one second is \_\_\_\_\_.  
a) wave length                      b) pitch                      c) frequency                      d) Note
28. A device in which the loss of heat due to conduction, convection and radiation is minimized is \_\_\_\_\_.                      a) solar cell                      b) solar cooker                      c) thermometer                      d) thermos flask

29. Carbon forms large number of organic compounds due to \_\_\_\_\_.  
 a) Allotropy                      b) Isomerism                      c) Tetravalency                      d) Catenation
30. Carbon is one of the most important \_\_\_\_\_ element.  
 a) Metallic                      b) Non-metallic                      c) Metalloid                      d) None of these
31. Arrangement of atoms in diamond is \_\_\_\_\_.  
 a) Hexagonal                      b) Trigonal                      c) Tetrahedral                      d) Pentagonal
32. Burning of PVC releases  
 a) Dioxins                      b) Carbon monoxide                      c) Sulphur dioxide                      d) Chlorine
33. Cholera is caused by \_\_\_\_\_.    a) Bacteria                      b) Virus                      c) Fungi                      d) Algae
34. Diphtheria affects the \_\_\_\_\_.    a) lungs                      b) throat                      c) blood                      d) liver
35. \_\_\_\_\_ are used for decoration purpose.  
 a) Flowers                      b) Fruits                      c) Seeds                      d) Leaves
36. \_\_\_\_\_ is a free floating aquatic fern.  
 a) My Corrhizae                      b) Azolla                      c) Azotobacter                      d) Rhizobium
37. William Harvey discovered \_\_\_\_\_.  
 a) Heliocentric                      b) Geocentric theory                      c) Gravitational force                      d) Circulation of blood
38. Who wrote the 95<sup>th</sup> theses?    a) Martin Luther                      b) John Calvin                      c) Zwingli                      d) Thomas more
39. The statistical study of human population is \_\_\_\_\_.  
 a) Demography                      b) Morphology                      c) Etymology                      d) Seismology
40. The world population day is observed on \_\_\_\_\_ every year.  
 a) August 11<sup>th</sup>                      b) September 11<sup>th</sup>                      c) July 11<sup>th</sup>                      d) June 11<sup>th</sup>
41. Gradual increase of the earths temperature by the Green house gases in the atmosphere is called \_\_\_\_\_.    a) Acid rain                      b) Deforestation                      c) Pollution                      d) Global warming
42. \_\_\_\_\_ act as a inspector of Village Panchayat.  
 a) Commissioner                      b) Councillors                      c) District Collector                      d) Mayor
43. \_\_\_\_\_ is known as the Father of Local Governments.  
 a) GVK Rao                      b) Lord Ripon                      c) LM Singhvi                      d) Balwant
44. The 73<sup>rd</sup> and 74<sup>th</sup> constitutional Amendment Acts, was enacted during the year in \_\_\_\_\_.  
 a) 1992                      b) 1993                      c) 1994                      d) 1995
45. \_\_\_\_\_ was known as Prince among Humanists.  
 a) Raphael                      b) Erasmus                      c) Petrarch                      d) Cervantes
46. Which among the following plants were introduced from America to Europe?  
 a) Sugarcane                      b) Rice                      c) Sweet Potato                      d) Wheat
47. \_\_\_\_\_ named as the sea as Pacific ocean as it was very calm.  
 a) Columbus                      b) Amerigo                      c) Ferdinand Magellan                      d) Vasco-da-gama
48. The extraction of valuable minerals and other geological minerals from mines, is \_\_\_\_\_.  
 a) Mining                      b) Fishing                      c) Agriculture                      d) Sericulture
49. தமிழ் மக்களை வைத்துப் போராடிய நேதாஜியைக் கண்டு கோபம் கொண்ட ஆங்கிலப் பிரதமர் \_\_\_\_\_.  
 அ) சர்ச்சில்                      ஆ) தில்லான்                      இ) தாசன்                      ஈ) மோகன்சிங்
50. சீவகசிந்தாமணி நூலின் ஆசிரியர் \_\_\_\_\_.  
 அ) திருத்தக்க தேவர்                      ஆ) பாரதிதாசன்                      இ) கம்பர்                      ஈ) இளங்கோவடிகள்
51. தென்னன் என்னும் சொல் \_\_\_\_\_ மன்னனைக் குறிக்கும்.  
 அ) சேரன்                      ஆ) பாண்டியன்                      இ) நாயக்கர்                      ஈ) சோழன்
52. 'இளங்கமுகு' எவ்வாறு பிரியும்? \_\_\_\_\_.    அ) இளம் + கமுகு                      ஆ) இள + கமுகு                      இ) இளமை + கமுகு                      ஈ) இலமை + கமுகு
53. மதுரைக் காஞ்சி \_\_\_\_\_ நூல்களுள் ஒன்று.  
 அ) எட்டுத்தொகை                      ஆ) சிற்றிலக்கியம்                      இ) பத்துப்பாட்டு                      ஈ) ஐஞ்சிறுகாப்பிய
54. 'கலைச்செல்வி பச்சை உடுத்தினாள்' என்ன ஆகுபெயர்?  
 அ) சினை ஆகுபெயர்                      ஆ) பொருளாகு பெயர்                      இ) இடவாகு பெயர்                      ஈ) பண்பாகு பெயர்
55. பெரியார் மதிப்பு மிக்க நூலாக கருதியது \_\_\_\_\_.  
 அ) தொல்காப்பியம்                      ஆ) சிலப்பதிகாரம்                      இ) திருக்குறள்                      ஈ) கம்பராமாயணம்
56. முண்டி மோதும் துணியே இன்பம் - இவ்வடியில் இன்பமாக உருவகிக்கப்படுவது.  
 அ) மகிழ்ச்சி                      ஆ) வியப்பு                      இ) துணிவு                      ஈ) மருட்சி
57. 'ரவி' என்னும் சொல் தரும் பொருள் \_\_\_\_\_.    அ) நிலா                      ஆ) நட்சத்திரம்                      இ) கதிரவன்                      ஈ) கமுகு
58. "ஞானம்" என்பதன் பொருள் யாது?  
 அ) தானம்                      ஆ) தெளிவு                      இ) சினம்                      ஈ) அறிவு
59. காலத்தினால் செய்த நன்றி சிறதெனினும்  
 ஞாலத்தின் மாணப் பெரிது.  
 இக்குறளின் ஈற்றுச் சீர் வாய்பாடு எது?    அ) நாள்                      ஆ) மலர்                      இ) காசு                      ஈ) பிறப்பு
60. மதுரைக் காஞ்சியில் \_\_\_\_\_ அடிகள் உள்ளன.    அ) 782                      ஆ) 762                      இ) 732                      ஈ) 752

### FA3 PRE CONTEST - DETAIL

- Tamil : 1) அலகிட்டு வாய்பாடு:  
தேரான் தெளிவும் தெளிந்தான்கண் ஐயறவும்  
தீரா இடும்பை தரும். - இக்குறளை அலகிட்டு வாய்பாடு செய்க.
- English: 2) Describe the life of Srinivasa Ramanujan in India.
- Maths: 3) Find the value of  
 $\tan^2 60^\circ - 2\tan^2 45^\circ - \cot^2 30^\circ + 2\sin^2 30^\circ + \frac{3}{4} \operatorname{cosec}^2 45^\circ$
- Chem: 4) Name the three safer resin codes of plastics and describe their features.
- Social: 5) Describe the major problems and challenges faced by the local self government.

### PRE FA3 CONTEST- QUIZ

1. Ramanujan was affected by \_\_\_\_\_ disease. Ans: Tuberculosis
2. What is the abbreviation of ATM? Ans: Automated Teller Machine
3. Which theory of Ramanujan helps the ATM's to dispense cash? Ans: Ramanujan's Partition Theory
4. Norman Littleford was an \_\_\_\_\_ poet. Ans: American
5. A Birthday Letter was written by \_\_\_\_\_. Ans: Jawaharlal Nehru
6. Name the device that collected soil and detected water-ice on the moon. Ans: Minerology Mapper
7. How many letters did Nehru write to Indira? Ans: 196
8. Give the meaning for the word "fascinated". Ans: extremely attracted
9. Ramanujan used to give lectures on subjects like \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.  
Ans: God, Zero and Infinity
10. When did Ramanujan sail for Britain? Ans: March 17, 1914
11. In right angle triangle, the largest side is called \_\_\_\_\_. Ans: Hypotenuse
12. The trigonometric ratios are \_\_\_\_\_. Ans:  $\sin\theta$ ,  $\cos\theta$ ,  $\tan\theta$
13. The reciprocal of  $\tan\theta$  is \_\_\_\_\_. Ans:  $\cot\theta$
14.  $\cos\theta \times \sec\theta =$  \_\_\_\_\_. Ans: 1
15. Pythagoras theorem satisfy for \_\_\_\_\_ angle triangle. Ans: Right
16.  $\sin 0^\circ =$  \_\_\_\_\_. Ans: 0
17. The set of three numbers are called as \_\_\_\_\_ as they form the sides of a right angle triangle. Ans: Pythagorean triplets
18. Formula to find the semiperimeter of the triangle \_\_\_\_\_. Ans:  $\frac{a+b+c}{2}$
19. Heron's formula to find the area of an equilateral triangle \_\_\_\_\_. Ans:  $\frac{\sqrt{3}}{4} a^2$  sq. units
20. Formula to find volume of cuboid \_\_\_\_\_. Ans:  $l \times b \times h$  cubic units
21. The fastest mode of heat transfer is \_\_\_\_\_. Ans: Radiation
22. During day time air blows from \_\_\_\_\_ to \_\_\_\_\_. Ans: Sea to land
23. The fixed temperature at which matter changes state from solid to liquid is called \_\_\_\_\_. Ans: Melting Point
24. Liquids and gases generally \_\_\_\_\_ conductors of heat. Ans: Poor
25. Buckminster Fullence contains \_\_\_\_\_ carbon atoms. Ans: 60
26. There are \_\_\_\_\_ plastic resin codes. Ans: seven
27. \_\_\_\_\_ named Carbon. Ans: Antonie Lavoisier
28. \_\_\_\_\_ vaccine gives considerable protection against tuberculosis. Ans: BCG
29.  $H_1 N_1$  virus causes \_\_\_\_\_. Ans: Swine flu
30. Diphtheria affects \_\_\_\_\_. Ans: Throat
31. The reformation of the catholic church is known as \_\_\_\_\_. Ans: Counter reformation
32. Who wrote the 95 Theses? Ans: Martin Luther
33. \_\_\_\_\_ was known as prince among Humanists. Ans: Erasmus
34. The continent of America was named after \_\_\_\_\_. Ans: Amerigo Vespucci
35. In 1453 Constantinople was captured by \_\_\_\_\_. Ans: Ottaman Turks
36. 'The world population day' is observed on \_\_\_\_\_ every year. Ans: 11<sup>th</sup> July
37. The statistical study of human population is \_\_\_\_\_. Ans: Demography

38. Cities with more than 50 lakh population are called \_\_\_\_\_. Ans: Mega cities
39. \_\_\_\_\_ is estimated to have killed 30-60 percent Europe's total population during the 14<sup>th</sup> century. Ans: Black death
40. India has an official population policy implemented in the year \_\_\_\_\_. Ans: 1952.
41. இரண்டாம் உலகப் போர் நடைபெற்ற ஆண்டு எது? விடை: 1942
42. இசை என்பதன் பொருள் புகழ் சரியா? தவறா? விடை: சரி
43. கொண்ட என்பதன் பகுதி யாது? விடை: கொள்
44. வாயில் என்பதன் இலக்கணக்குறிப்பு யாது? விடை: இலக்கணப்போலி
45. வகுப்பறை சிரித்தது இதில் பயின்று வந்துள்ள ஆசிரியர் யாது? விடை: இடவாகுப் பெயர்
46. பெரியாருக்கு யுனெஸ்கோ வழங்கியப் பட்டம் யாது? விடை: தெற்கு ஆசியாவின் சாக்ரடீஸ்
47. கழுகு என்பதன் பொருள் யாது? விடை: பாக்கு
48. தாவோ தே ஜிங் - என்னும் கவிதையை தமிழில் மொழி பெயர்த்தவர் யார்? விடை: சி.மணி
49. யசோதர காவியம் ஐம்பெருங்காப்பியங்களுள் ஒன்று சரியா? தவறா? விடை: தவறு
50. கைபேசியின் வரவால் இன்று \_\_\_\_\_ எழுதும் பழக்கம் குறைந்து விட்டது. விடை: கடிதம்