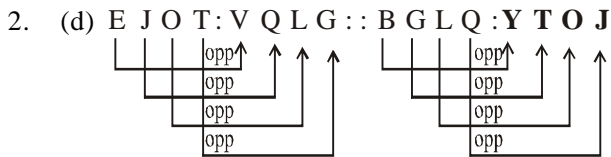
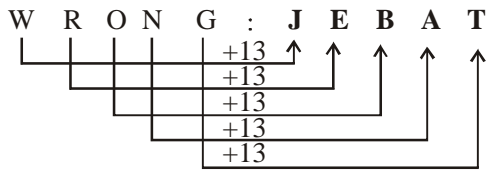
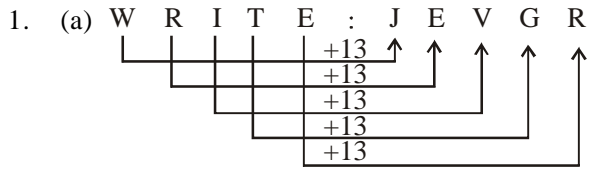


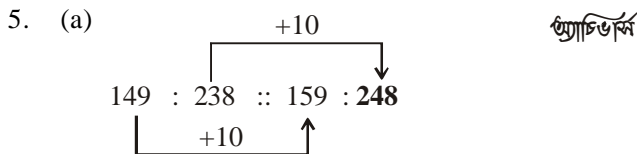
SSC CGL (Tier-I) Exam. Practice Set

Answers with Explanation



3. (c)

4. (c)



6. (c) Except option (c) all are not square digits.

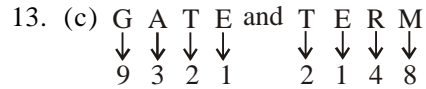
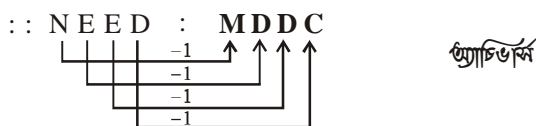
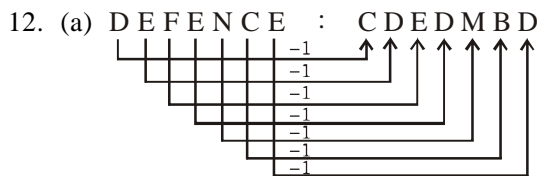
7. (d) Except option (d) the sum of first and second digit is equal to third digit.

8. (a) Principal, teacher and student are the part of a school.

9. (c) Snooker, Billiards and Table Tennis are played on Table, while Badminton is played on court.

10. (c) Except option (c) vowel and consonants are used in all options.

11. (b) m i n u s



then,



শ্রুতিভঙ্গি

14. (d) a c d / b d e / c e f / d f g / e g h

15. (b) he (is) waiting there = (la) pa (ro) ta ... (i)

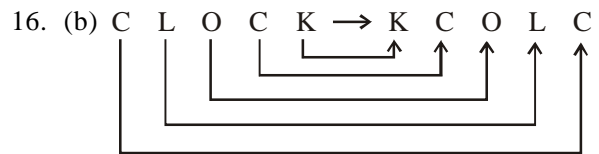
there (s) the train = zo (ro) ji (la) ... (ii)

waiting at the station = ma (ta) fu ji ... (iii)

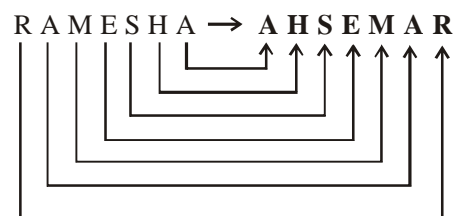
Is this a station = fu bi ri vi ... (iv)

From equation (i)

he = pa



Similarly,



17. (b) $3 \times 2 \times 6 = 36$

$4 \times 5 \times 7 = 140$

Similarly,

$9 \times 2 \times 1 = 18$

শ্রুতিভঙ্গি

18. (d) $1 + \frac{1}{2} = \frac{3}{2}$

$2 + \frac{2}{3} = \frac{8}{3}$

Similarly,

$3 + x = \frac{19}{5}$

$$x = \frac{19}{5} - 3 = \frac{4}{5}$$

19. (b) $(5 \times 4) \div 2 = 10$

$(7 \times 6) \div 3 = 14$

Similarly,

$(8 \times 6) \div x = 12$

$48 \div x = 12$

$\therefore x = 48 \div 12$

$= 4$

20. (a) $(5 \times 3) + (6 \times 8) = 63$

$(2 \times 7) + (3 \times 9) = 41$

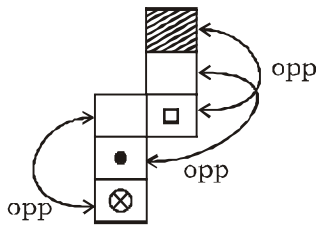
Similarly,

$(6 \times 7) + (8 \times 5) = 82$

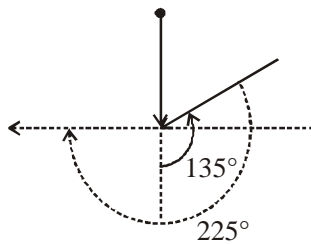
21. (c) Number of odd days (1st January 1997 - 1st January 1998) = 1

Hence, 1st January 1998 = Friday + 1 = Saturday

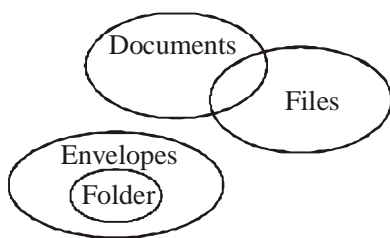
22. (c)



23. (b)



24. (a)



Conclusion- I - ✓
II - ✗

25. (c) M = 02, 14, 21, 33, 40

I = 58, 65, 77, 89, 96

S = 03, 10, 22, 34, 41

T = 56, 68, 75, 87, 99

26. (c) $0.\overline{11} = \frac{11}{100-1} = \frac{11}{99} = \frac{1}{9}$

Similarly,

$$0.\overline{22} = \frac{2}{9}$$

$$(0.\overline{11} + 0.\overline{22}) \times 3 = \left(\frac{1}{9} + \frac{2}{9}\right) \times 3$$

$$= \frac{3}{9} \times 3 = 1$$

27. (a) Let the HCF of two numbers = x

Then the LCM of numbers = 44x

LCM + HCF = 1125 (given)

$$44x + x = 1125$$

$$45x = 1125$$

$$x = 25$$

HCF = 25

$$\text{LCM} = 44 \times 25 = 1100$$

First number = 25 (given)

$$\text{LCM} \times \text{HCF} = \text{Number}_1 \times \text{Number}_2$$

$$1100 \times 25 = 25 \times \text{Number}_2$$

$$\text{Number}_2 = 1100$$

28. (c) $\frac{1+\sqrt{2}}{\sqrt{5}+\sqrt{3}} + \frac{1-\sqrt{2}}{\sqrt{5}-\sqrt{3}}$

$$= \frac{1+\sqrt{2}}{\sqrt{5}+\sqrt{3}} \times \frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}-\sqrt{3}} + \frac{1-\sqrt{2}}{\sqrt{5}-\sqrt{3}} \times \frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}+\sqrt{3}}$$

$$= \frac{\sqrt{5}+\sqrt{10}-\sqrt{3}-\sqrt{6}}{5-3} + \frac{\sqrt{5}-\sqrt{10}+\sqrt{3}-\sqrt{6}}{5-3}$$

$$= \frac{\sqrt{10}-\sqrt{6}+\sqrt{5}-\sqrt{3}-\sqrt{10}-\sqrt{6}+\sqrt{5}+\sqrt{3}}{2}$$

$$= \frac{2(\sqrt{5}-\sqrt{6})}{2} = \sqrt{5}-\sqrt{6}$$

29. (a) Marks obtained by student = 125

He failed by = 40

$$\text{So, marks needed to pass} = 125 + 40 = 165$$

$$\text{So, maximum marks} = 165 \times \frac{100}{33} = 500$$

30. (c) A : B = 3 : 4

B : C = 8 : 9

$$\frac{A : B : C}{A : B : C} = \frac{24 : 32 : 36}{6 : 8 : 9}$$

$$A : B : C = 6 : 8 : 9$$

31. (c) Single discount = $10 + 5 - \frac{10 \times 5}{100}$

$$= 15 - 0.50 = 14.50\%$$

32. (c) $x + \frac{1}{x} = \sqrt{3}$

Cubing both side

$$x^3 + \frac{1}{x^3} + 3 \cdot x \cdot \frac{1}{x} \left(x + \frac{1}{x} \right) = 3\sqrt{3}$$

$$x^3 + \frac{1}{x^3} = 3\sqrt{3} - 3\sqrt{3} = 0$$

$$x^6 + 1 = 0$$

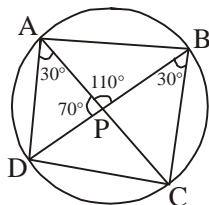
$$\begin{aligned} & x^{306} + x^{300} + x^{270} + x^{264} - x^{204} - x^{198} + 1 \\ &= x^{300} (x^6 + 1) + x^{264} (x^6 + 1) - x^{198} (x^6 + 1) \\ &+ 1 \\ &= 0 + 0 - 0 + 1 = 1 \end{aligned}$$

33. (b) Required angle = $\frac{360}{100} \times 35^\circ = 126^\circ$

34. (c) Income from 'Income tax and Excise duty'

$$= \frac{733 \times 45}{100} = 329.85 \text{ cr.}$$

35. (b)



Given $\angle CBD = 30^\circ$

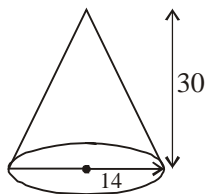
$\angle CAD = 30^\circ$

Angle subtends by a single chord at the circumference are equal

$$\angle APD = 180^\circ - 110^\circ = 70^\circ$$

$$\therefore \angle ADB = 180^\circ - 100^\circ = 80^\circ$$

36. (d)



The volume of cone = volume of cylinders

$$\frac{1}{3} \times \pi (14)^2 \times 30 = \pi r^2 \times 6.4$$

$$\frac{14^2 \times 10 \times 10}{64} = r^2$$

$$r = \frac{14 \times 10}{8} = \frac{35}{2} \text{ cm}$$

So, diameter = 35 cm

37. (a) $\sec\theta + \tan\theta = \sqrt{5} + 2$

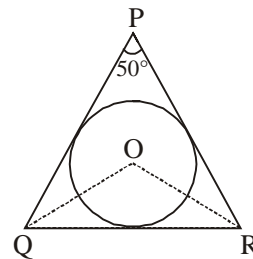
$$\sec\theta - \tan\theta = \sqrt{5} - 2$$

$$\sec\theta = \sqrt{5}$$

$$\tan\theta = 2$$

$$\sin\theta = \frac{\tan\theta}{\sec\theta} = \frac{2}{\sqrt{5}}$$

38. (d)



$$\angle QOR = 90 + \frac{1}{2} \angle A = 115^\circ$$

39. (a) $\sqrt{\frac{0.324 \times 0.081 \times 4.624}{1.5625 \times 0.0289 \times 72.9 \times 64}}$

$$= \sqrt{\frac{324 \times 81 \times 4624}{15625 \times 289 \times 729 \times 64}}$$

$$= \frac{18 \times 9 \times 68}{125 \times 17 \times 27 \times 8}$$

$$= \frac{3}{125} = 0.024$$

40. (b) Cost price : Selling price = 5 : 6

$$\text{Gain percentage} = \frac{6-5}{5} \times 100 = 20\%$$

41. (c) Distance covered by second train in 4 hours = 364 km

$$\text{The speed of second train} = \frac{364}{4} = 91 \text{ km/hr}$$

The ratio of speeds of train = 6 : 7

$$\text{So, the speed of first train} = 91 \times \frac{6}{7}$$

$$= 78 \text{ km/hr}$$

42. (d) Let principal = p

Rate = r%

ATQ,

$$\frac{1}{9} p = \frac{p \times r \times t}{100}$$

$$r^2 = \frac{100}{9} = \left(\frac{10}{3} \right)^2$$

$$r = \frac{10}{3} = 3\frac{1}{3}\%$$

প্র্যাচিওর্স

প্র্যাচিওর্স

প্র্যাচিওর্স

প্র্যাচিওর্স

প্র্যাচিওর্স

43. (b)

$$\begin{array}{c}
 \begin{array}{ccc}
 & 3+3=6 & \\
 \swarrow & & \searrow \\
 8 \times 3 & & 12 \times 3 \\
 \downarrow & & \downarrow \\
 24 \text{ km } \uparrow & + & 36 \text{ km } \downarrow \\
 & & \\
 36 \text{ km } \uparrow & + & 24 \text{ km } \downarrow \\
 \downarrow & & \downarrow \\
 8 \times 4\frac{1}{2} & & 12 \times 2 \\
 & \swarrow & \searrow \\
 & 4\frac{1}{2} + 2 = \frac{13}{2} &
 \end{array} \\
 \\
 = 6 \text{ hours} \\
 \\
 = \frac{13}{2} \text{ hours}
 \end{array}$$

অ্যাচিভার্স

$$\text{So, the speed of correct} = \frac{12-8}{2} = 2 \text{ km/hr}$$

44. (b)

$$\begin{aligned}
 x^2 + y^2 + z^2 &= 2x + 2z - 2 \\
 x^2 - 2x + 1 + z^2 - 2z + 1 + y^2 &= 0 \\
 (x-1)^2 + (z-1)^2 + y^2 &= 0 \\
 x = 1, z = 1, y = 0 \\
 \text{The value of } x^3 + y^3 + z^3 &= 1^3 + 1^3 + 0^3 = 2
 \end{aligned}$$

45. (c)

$$x = \frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}+\sqrt{3}} \text{ and } y = \frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}$$

$$x = \frac{(\sqrt{5}-\sqrt{3})(\sqrt{5}-\sqrt{3})}{(\sqrt{5}+\sqrt{3})(\sqrt{5}-\sqrt{3})}$$

অ্যাচিভার্স

$$x = 4 - 2\sqrt{5} \text{ similarly, } y = 4 + 2\sqrt{5}$$

$$\text{So, } x = \frac{1}{y} \text{ or } xy = 1 \text{ and } x + \frac{1}{x} = 8$$

$$x^2 + \frac{1}{x^2} = (8)^2 - 2 = 64 - 2 = 62$$

$$\frac{x^2 + xy + y^2}{x^2 - xy + y^2} = \frac{x^2 + \frac{1}{x^2} + xy}{x^2 + \frac{1}{x^2} - xy}$$

$$= \frac{62+1}{62-1} = \frac{63}{61}$$

46. (a)

$$\begin{aligned}
 x^2 + x &= 5 \\
 x^2 + 3x - 2x - 6 &= 5 - 6 \\
 x(x+3) - 2(x+3) &= -1
 \end{aligned}$$

$$x - 2 = -\frac{1}{(x+3)}$$

$$(x+3) - 2 - 3 = -\frac{1}{(x+3)}$$

অ্যাচিভার্স

$$(x+3) + \frac{1}{(x+3)} = 5$$

$$(x+3)^3 + \frac{1}{(x+3)^3}$$

$$+ 3(x+3)\left(\frac{1}{x+3}\right)\left[(x+3) + \frac{1}{(x+3)}\right] = 5^3$$

$$(x+3)^3 + \frac{1}{(x+3)^3} + 3 \times 5 = 125$$

$$(x+3)^3 + \frac{1}{(x+3)^3} = 110$$

$$47. (a) \frac{\sec \theta + \tan \theta}{\sec \theta - \tan \theta} = 2 \frac{51}{79}$$

অ্যাচিভার্স

$$\frac{1 + \sin \theta}{1 - \sin \theta} = \frac{209}{79}$$

$$\frac{1 + \sin \theta + 1 - \sin \theta}{1 + \sin \theta - 1 + \sin \theta} = \frac{209 + 79}{209 - 79}$$

$$\frac{2 \sin \theta}{2} = \frac{130}{288}$$

$$\sin \theta = \frac{65}{144}$$

$$48. (b) \cos 24^\circ + \cos 55^\circ + \cos 125^\circ + \cos 204^\circ + \cos 300^\circ$$

$$\begin{aligned}
 &= \cos 24^\circ + \cos (90^\circ - 35^\circ) + \cos (90 + 35) \\
 &+ \cos (180^\circ + 24^\circ) + \cos (360^\circ - 60^\circ) \\
 &= \cos 24^\circ + \sin 35^\circ - \sin 35^\circ - \cos 24^\circ + \cos 60^\circ \\
 &= \cos 60^\circ = \frac{1}{2}
 \end{aligned}$$

$$49. (b) \text{ Let } a = \left[1 + \frac{1}{10 + \frac{1}{10}} \right] = 1 + \frac{10}{101} = \frac{111}{101}$$

$$\text{and } b = \left[1 - \frac{1}{10 + \frac{1}{10}} \right] = 1 - \frac{10}{101} = \frac{91}{101}$$

then

$$\frac{a^2 - b^2}{ab} = \frac{a}{b} = \frac{b}{a}$$

অ্যাচিভার্স

$$= \frac{111 \times 101}{101 \times 91} - \frac{91 \times 101}{101 \times 111}$$

$$= \frac{111}{91} - \frac{91}{111}$$

$$= \frac{202 \times 20}{10101} = \frac{4040}{10101}$$

50. (b) $4a - \frac{4}{a} + 3 = 0$

শ্রুতিভঙ্গ

$$4\left(a - \frac{1}{a}\right) = -3$$

$$\left(a - \frac{1}{a}\right) = \frac{-3}{4} \text{ (cubing both sides)}$$

$$a^3 - \frac{1}{a^3} - 3\left(\frac{-3}{4}\right) = \frac{-27}{64}$$

$$a^3 - \frac{1}{a^3} + 3 = \frac{-27}{64} + 3 - \frac{9}{4}$$

$$a^3 - \frac{1}{a^3} + 3 = \frac{21}{64}$$

51. (b) After the decline of the Delhi sultans in the early 16th century, the Mughals began to rule over North India. Babur was the first Mughal ruler. The other important Mughal rulers were Humayun, Akbar, Jahangir, Shahjahan, Aurangzeb and Bahadur Shah II. The earliest Mughal coins are of silver and copper. Humayun was the first Mughal ruler to issue gold coins. Some of the most beautiful gold coins were issued by Akbar and his successors. These coins are called muhr or Muhar meaning "seal".
52. (c) The 74th Constitutional Amendment Act, 1992, added part IX A of the Constitution of India, related to Municipalities and provided Constitutional status to urban local government.
53. (a) Azimullah Khan Yusufzai (1830–1859), also known as Dewan, was initially appointed secretary and later Prime Minister to Nana Saheb. Azimullah Khan was involved in the Indian Rebellion of 1857.
54. (c) Govindghat is a town in Chamoli district, Uttarakhand, India, located at the confluence of the Alaknanda and Lakshman Ganga rivers.
55. (c) Reliance Jio Infocomm Limited (Jio), a subsidiary of Reliance Industries Limited, and Google Cloud are embarking on a comprehensive, long-term strategic relationship with a goal of powering 5G in enterprise and consumer segments nationwide.
56. (b) The Phillips curve represents relationship between the rate of inflation and the unemployment rate.

57. (a) Silicon is used in solar cells.
58. (d) Joint session is presided over by the Speaker of Lok Sabha or in his absence by the Deputy Speaker, or in his absence by the Deputy chairman of the Rajya Sabha or in his absence any member of the Parliament who is agreed upon by the Houses.
59. (b) The "Treaty of Purandar" was signed on June 11, 1665, between the Rajput ruler Jai Singh I, who was commander of the Mughal Empire and Maratha Chhatrapati Shivaji Maharaj. Shivaji was forced to sign the agreement after Jai Singh besieged Purandar Fort.
60. (b) Indian British author Ruskin Bond authored a new book titled 'It's a Wonderful Life' is published by Aleph Book Company.
61. (d) শ্রুতিভঙ্গ
62. (a) Biodiversity changes occur increases towards the equator.
63. (c) The source of all the energy so generously radiated by the sun, does two things–
(i) It converts hydrogen into helium, and,
(ii) It converts mass into energy.
64. (a) Microsoft officially launched its new Windows operating system 'Windows 11'. It is being called as the "next generation" of Windows.
65. (b) Carbonic acid is found in soda water. Carbonated water is water into which carbon dioxide gas under pressure has been dissolved.
66. (a) There are 4 players in a polo team.
67. (d) Guru Angad (31 march 1504, 28 march 1552) was the second of ten sikh Gurus. He was born in the village of sarae Naga in Muktsar District in Punjab on 31 March 1504. In 1538, Guru Nanak chose Lehna-his-disciple-to be his successor as sikhism Guru, rather than one of his sons. Lehna was then given the name Angad and designated as Guru Angad, becoming the second guru of the sikhs.
68. (c) A "blue baby syndrome" can also be caused by methemoglobinemia. It is widely believed to be caused by nitrate contamination in groundwater resulting in decreased oxygen carrying capacity of haemoglobin in babies leading to death.
69. (d) Justice (Retd.) Shambhu Nath Srivastava, a former judge of Allahabad High Court and former chief Lokayukta of Chhattisgarh, has been appointed the chairman of the Indian Federation of United Nations Associations (IFUNA)

70. (d)
71. (d) Monetary policy is the process by which monetary authority of a country, generally a central bank controls the supply of money in the economy by exercising its control over interest rates in order to maintain price stability and achieve high economic growth. In India, the central monetary authority is the Reserve Bank of India (RBI). It is so designed as to maintain the price stability in the economy.
72. (d) Hemophilia is a hereditary defect.
73. (a) In human body, vitamin A is stored in the liver.
74. (c) India stands at the 20th spot among the top 100 countries that have been ranked in the Global Startup Ecosystem Index 2021 by Startup Blink.
75. (b) "Malacca strait" lies between Indonesia and Malaysia.
76. (a) whom is used instead of who as the object of a verb or preposition. Look at the examples given below :
Whom did they invite ?
To whom should I write ?
Here, whom is the right usage
77. (b) Here, he is as tall as an oak tree/giraffe/steeple is the right usage.
78. (a) a bird in the hand is worth two in the bush (Id.) :
It is better to keep something that you already have than to risk losing it by trying to get much more. Hence, A bird in the hand is the right usage.
79. (b) Here, out on is the right usage.
80. (d) draft (Noun) : a rough written version of something that is not yet in its final form Here, draft is the right usage.
81. (c) commensurate (Adjective): matching something in size, importance, quality, etc.
Here, with is the right usage.
82. (c) care about (Phr. V.) : to feel that something is important and worth worrying about
Here, about is the right usage.
83. (d) neither (Adv.) : used for showing that a negative statement is also true of somebody/something else.
Here, neither is the right usage
84. (c) roam
wander (V.) : to walk around a place without any purpose ; roam.
85. (c) awareness
consciousness (N.) : awareness ; the state of being aware of something ; the state of being able to use senses
86. (a) capacity
caliber/calibre (N.) : the quality of something, especially a person's ability ; capacity.
87. (d) fall flat : fail to amuse people or to have effect that was intended
● Most of his jokes fell flat. The best option is to fail to produce intended effect.
88. (c) to pass away : to die
● My aunt passed away last week. The best option is die.
89. (b) turn down : to reject/to refuse
● The board turned down the demand laid down by the union.
The best option is reject.
90. (a) die hard : strongly opposing change and new ideas
● These ancient traditions die hard in the isolated communities of rural India.
The best option is unwilling to change.
91. (c) Courteous (Adjective) = polite; respectful; well-mannered; considerate in manner.
Insolent (Adjective) = extremely rude and showing a lack of respect; impudent; ill-mannered.
Look at the sentences :
She hated the insolent tone of his voice when she asked for help.
She was courteous and obliging to all.
92. (d) Worthless (Adjective) = having no real value or use; good for nothing.
Invaluable (Adjective) = extremely useful; indispensable; of inestimable worth; priceless.
Look at the sentences :
Mr. Crump says the help he has received from Macmillan nurses is invaluable.
Joan had been deserted by a worthless husband.
93. (d) Fruitful (Adjective) = producing many useful results; productive.
Futile (Adjective) = having no purpose because there is no chance of success; pointless.
Look at the sentence :
Their efforts to revive him were futile.
His continuous efforts were proved fruitful as he got a good job.
94. (a) obsolete
obsolete (Adj.) : no longer used because something new has been invented.
95. (c) exonerate

exonerate (V.) : to officially state that somebody is not responsible for something that he has been blamed for
let go (Id.) : to stop holding somebody/something
release (V.) : set somebody/something free ; stop holding something; free somebody from a duty, responsibility, etc.

ଅଧ୍ୟାପକ

96. (b) thank (Verb)
97. (a) reacting (Verb)
98. (b) looked (Verb)
99. (d) on (Prep.)
100.(c) street (Noun)

ଅଧ୍ୟାପକ

