

SSC MOCK TEST - 246 (SOLUTION)

1. (B) As,

$$\begin{array}{cccc} R & T & V & X \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 18 & + & 20 & + & 22 & + & 24 \Rightarrow \frac{84}{2} = 42 \end{array}$$

Similarly,

$$\begin{array}{cccc} M & O & Q & S \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 13 & + & 15 & + & 17 & + & 19 \Rightarrow \frac{64}{2} = 32 \end{array}$$

2. (C) As,

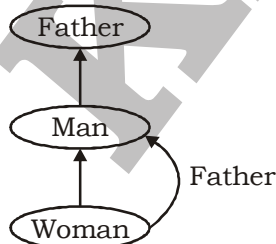
$$\begin{array}{cccc} 36 & 16 & 64 & 4 \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 6 & + & 4 & + & 8 & + & 2 = 20 \text{ (Sum of square root of 36, 16, 64 and 4)} \end{array}$$

Similarly,

$$\begin{array}{cccc} 169 & 25 & 144 & 81 \\ \downarrow & \downarrow & \downarrow & \downarrow \\ 13 & + & 5 & + & 12 & + & 9 = 39 \text{ (Sum of square root of 169, 25, 144 and 81)} \end{array}$$

3. (B) Oxygen is a waste material of photosynthesis, while garbage is a waste material of house.
4. (D) China, Brazil and Russia is the name of country, while Addis Ababa is the capital of 'Ethiopia'.
5. (B) There are 31 days in the month of March, July and August, while the number of days in April is 30 days.
6. (C) The numbers 93165, 36747 and 76137 are divisible by 3, while 85253 is not divisible by 3.
7. (A) 5. Shoulder → 6. Elbow → 1. Wrist → 4. Palm → 3. Fingers → 2. Nails

8. (C)



Hence the woman is daughter of that man.

9. (B) As,

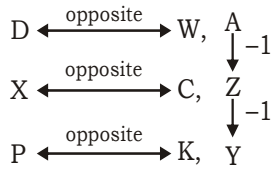
$$14 \xrightarrow{\times \frac{14}{2}} 98$$

$$12 \xrightarrow{\times \frac{12}{2}} 72$$

Similarly,

$$8 \xrightarrow{\times \frac{8}{2}} 32$$

10. (B)



11. (C) It was Saturday. On 31 December 2005.

Number of odd days from 2006 to 2010 = $1 + 1 + 2 + 1 + 1 = 6$

It was Saturday + 6 = Friday on 31 December 2010.

Hence, it was Sunday on 2 January 2011.

12. (B) As,

$$3 \times 2 \times 2 = 12$$

$$5 \times 2 \times 5.5 = 55$$

Similarly,

$$-2 \times 6 \times 2.8 = -33.6$$

13. (C) **Ist column,**

$$30 \times 1.5 = 45$$

$$45 \times 2 = 90$$

IInd column,

$$50 \times 1.5 = 75$$

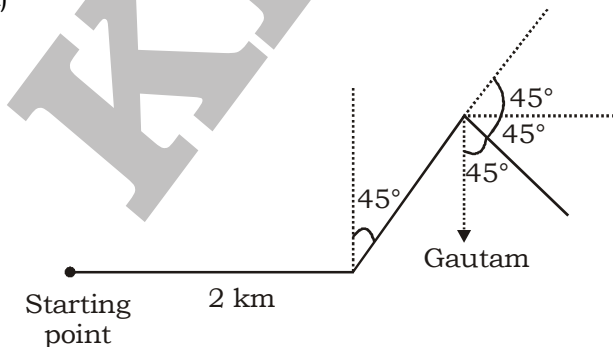
$$75 \times 2 = 150$$

IIIrd column,

$$38 \times 1.5 = 57$$

$$57 \times 2 = 114$$

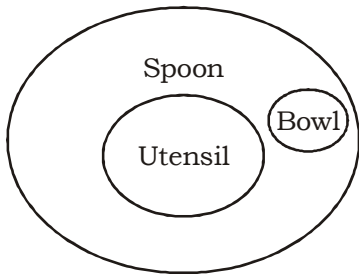
14. (A)



Hence, now he is in South direction.

15. (C)
- | | |
|---|---|
| C $\xleftrightarrow[Consonant]{+1}$ D | P $\xleftrightarrow[Consonant]{+1}$ Q |
| O $\xleftrightarrow[Vowel]{Opposite}$ L | A $\xleftrightarrow[Vowel]{Opposite}$ Z |
| U $\xleftrightarrow[Vowel]{Opposite}$ F | R $\xleftrightarrow[Consonant]{+2}$ T |
| R $\xleftrightarrow[Consonant]{+2}$ T | E $\xleftrightarrow[Vowel]{Opposite}$ V |
| I $\xleftrightarrow[Vowel]{Opposite}$ R | N $\xleftrightarrow[Consonant]{+3}$ Q |
| E $\xleftrightarrow[Vowel]{Opposite}$ V | T $\xleftrightarrow[Consonant]{+4}$ X |
| R $\xleftrightarrow[Consonant]{+3}$ U | |

16. (C)

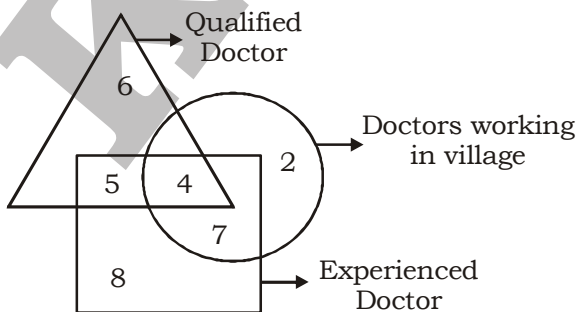


Conclusion:

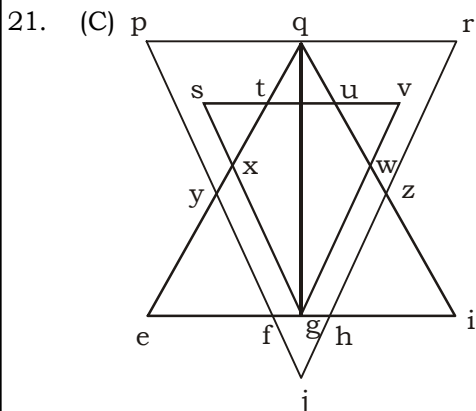
- I. False II. Can't say III. Can't say
Hence, either conclusion II or III follows.

17. (C) HEMA/HEMA/HEMA/HEMA
18. (A) As per the given question, we know that the Pope belongs to both Catholics and Christians. So, it is clear that option (A) represent the best relationship between Christians, Catholic and Pope.
19. (C) $20 + 8 - 2.5 \div 20 \times 16$
After changing the sign:
 $= 20 \times 8 \div 2.5 + 20 - 16$
 $= \frac{160}{2.5} + 20 - 16$
 $= 64 + 20 - 16 = 68$

20. (C)



Hence, Number of qualified and experienced doctor working in villages = 4



There are three triangles in triangle prj, sgv, qtu, eqi, fhj.

\therefore Number of triangles in above triangle = $3 \times 5 = 15$ and single triangles are = pqr, qrz, yef, zhi, stx, uvw, exg, wgi, qxg, qwg, qyf, qzj = 12

\therefore Total triangles = $15 + 12 = 27$

22. (B)

23. (C)

24. (B) From positions X and Y we conclude that 1, 5, 6 and 3 lie adjacent to 4. Therefore, 2 must lie opposite 4. From positions Y and Z we conclude that 4, 3, 2 and 5 lie adjacent to 6. Therefore, 1 must lie opposite 6. Thus, 2 lies opposite 4, 1 lies opposite 6 and consequently 5 lies opposite 3. As analysed above, the number on the face opposite 4 is 2. In position Y, since 4 lies on the top, therefore 2 must lie at the bottom face.

25. (C)

28. (C) The BIFR was established under the Sick Industrial Companies (Special Provisions) Act, 1985 (SICA). The board was set up in January 1987 and became functional on 15th May 1987.

29. (A) All India Khilafat Conference : In November 1919, a joint conference of the Muslims and Hindus was called at Delhi in pursuance of the Muslim League President Fazl-ul-Haq . Gandhi ji suggested to start the non-cooperation movement which was opposed by Jinnah. In December 1919, the Khilafat Conference held its second session . The third Khilafat Conference was held in February 1920 at Bombay .

30. (B) The book "Ringside with Vijender" has been authored by Rudraneil Sengupta, the deputy editor of Lounge (the weekly feature magazine of Mint). The book throws light on the Beijing Olympics bronze medallist boxer Vijender Singh's sudden decision to turn pro just a year ahead of the 2016 Rio Olympics. It also portrays the moment when Vijendra was awarded India's highest sporting honour Rajiv Gandhi Khel Ratna Award. Beside this, it also contains his struggles, changes in his boxing style, training and his personal life.

31. (C) D P Tripathi (Devisree Prasad Tripathi) was a senior political leader of Nationalist Congress Party and a former Rajya Sabha MP from Maharashtra.

32. (D) Galacto Oligosaccharides (GOS), also known as Oligogalactose, belong to the group of Prebiotics. It is naturally found in soybeans and can be synthesized from lactose. GOS occurs in commercial available products such as food for both infants and adults.

33. (B) The world's largest temple is Angkor Wat, located in Angkor, Cambodia. This temple was built by Khmer King Suryavarman II in 12th century as his state temple and capital city.

35. (D) Pipavav Shipyard was established in 1997 at west coast of Saurashtra, Gujarat and it is one of the largest and leading shipbuilding company in India that is spread over 500 acres. It was the first corporate shipyard to be granted clearance to build 5 warships per year and currently it is executing a naval offshore patrol vessel.

39. (B) Tilaiya project is a 3,960 Megawatt (MW) Ultra Mega Power Project (UMPP) in Jharkhand. It was to be commissioned in 2012 but got delayed due to array of reasons.

40. (C) The Rhine, which flows in Switzerland, Liechtenstein, Austria, Germany, France and Netherlands, is the most important and busiest waterway in Europe. Other busy waterways include Seine and Loire rivers of France, Danube river of eastern Europe and Volga river of Russia.
44. (A) World Milk Day, established by the Food and Agriculture Organization (FAO) of the United Nations is observed annually on 1st June to recognise the importance of milk as a global food. It has been observed on June 1st each year since 2001. In India, the National Milk Day is observed on November 26th.
45. (A) Turgid : Hypotonic solution has lower solute concentration than cell cytoplasm, so by osmosis water will enter inside the cell.
46. (B) The Pahlavi dynasty was the ruling dynasty of Iran from 1925 to 1979.
49. (C) Indian Constitution empowers the President of India to convene the session of Parliament such that there should not be more than six months gap between two consecutive Parliament sessions.
51. (C) $\sqrt{3} = 1.73$

$$= 4\sqrt{3} + \frac{(2+\sqrt{3})(2+\sqrt{3})}{(2-\sqrt{3})(2+\sqrt{3})} + \frac{\sqrt{3}+2}{(\sqrt{3}-2)(\sqrt{3}+2)} = 4\sqrt{3} + \frac{(2+\sqrt{3})^2}{4-3} + \frac{\sqrt{3}+2}{-1}$$

$$= 4\sqrt{3} + (4 + 3 + 4\sqrt{3}) - (\sqrt{3} + 2)$$

$$= 7\sqrt{3} + 5 = 7 \times 1.73 + 5 = 12.11 + 5 = 17.11$$

52. (C) Difference in percentage of votes = $(54 - 46)\% = 8\%$
 $\therefore 8\%$ of total votes = 14400
 $\therefore 54\%$ of total votes = $\frac{14400 \times 54}{8} = 97200$
53. (A) HCF of two numbers = 3
 Hence, the numbers can be given by $3x$ and $3y$ {where x and y are co-prime}
 $\therefore 3x + 3y = 24$
 $x + y = 8$
 Possible pairs $\Rightarrow (1, 7) (3, 5)$
54. (B) Alcohol in mixture = 54 litres
 Water = 18 litres
 Let x litres of pure alcohol is mixed with the mixture.
 ATQ,

$$\frac{54 + x}{72 + x} = \frac{95}{100} = \frac{19}{20}$$

$$1080 + 20x = 1368 + 19x$$

$$x = 288 \text{ litres}$$

55. (B) Pipe A fills the tank in 45 minutes.
 \therefore Tank filled by A in 30 minutes = $\frac{30}{45} = \frac{2}{3}$
 Remaining part = $1 - \frac{2}{3} = \frac{1}{3}$
 \therefore 1 part is filled by pipe B in 51 minutes
 \therefore $\frac{1}{3}$ part is filled in = $\frac{1}{3} \times 51 = 17$ minutes

Shortcut :

$$\begin{array}{l} \text{A } 45 \quad \xrightarrow{\quad} \quad 17 \\ \quad \quad \quad \searrow \quad \quad \quad \nearrow \\ \quad \quad \quad 765 \\ \text{B } 51 \quad \xrightarrow{\quad} \quad 15 \\ \quad \quad \quad \searrow \quad \quad \quad \nearrow \\ \quad \quad \quad 32 \end{array}$$

Work done by A and B in 30 minutes = $32 \times 30 = 960$

Work not done by B = $960 - 765 = 195$

Tab B was turned off = $30 - \frac{195}{15} = 17 \text{ min}$

56. (C) Let ₹ x and ₹ y be the cost price of two goats.

ATQ,

64% of $x = 144\%$ of y

$$\frac{x}{y} = \frac{144}{64} = \frac{9}{4} \Rightarrow x : y = 9 : 4$$

\(\therefore\) Cost price of first goat = ₹ $\left(\frac{9}{13} \times 728\right) = ₹ 504$

57. (A) $\frac{AB}{AD} = \frac{BC}{CD} \Rightarrow \frac{4a}{7a} = \frac{3b+9}{14b}$

$$56b = 21b + 63 \Rightarrow 35b = 63$$

$$b = \frac{63}{35} = \frac{9}{5}$$

$$a = 2b = 2 \times \frac{9}{5} = \frac{18}{5}$$

58. (C) $\operatorname{cosec} \theta + \cot \theta = 3$ _____ (i)

we know that,

$$\operatorname{cosec}^2 \theta - \cot^2 \theta = 1$$

$$(\operatorname{cosec} \theta + \cot \theta) (\operatorname{cosec} \theta - \cot \theta) = 1$$

$$\operatorname{cosec} \theta - \cot \theta = \frac{1}{3} \quad \text{_____ (ii)}$$

Add (i) and (ii),

$$2 \operatorname{cosec} \theta = 3 + \frac{1}{3} \Rightarrow \operatorname{cosec} \theta = \frac{10}{3 \times 2} = \frac{5}{3}$$

$$\sin \theta = \frac{3}{5} \quad [\text{As } \sin \theta = \frac{1}{\operatorname{cosec} \theta}]$$

59. (B) $bx - ay = 7$ _____ (i)

$ax + by = 5$ _____ (ii)

Squaring of equation (i) and (2), then add

$$b^2 x^2 + a^2 y^2 - 2abxy = 49$$

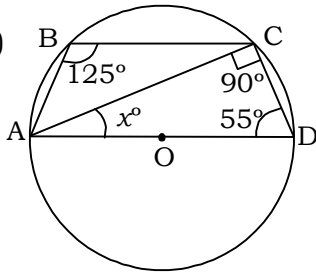
$$\underline{a^2 x^2 + b^2 y^2 + 2abxy = 25}$$

$$x^2 (a^2 + b^2) + y^2 (a^2 + b^2) = 74$$

$$(a^2 + b^2)(x^2 + y^2) = 74$$

$$a^2 + b^2 = \frac{74}{37} = 2 \quad \{\because x^2 + y^2 = 37\}$$

60. (B)



AD is diameter of circle, so $\angle ACD = 90^\circ$ and ABCD is a cyclic quadrilateral.

So, $\angle ABC + \angle ADC = 180^\circ$

$$125^\circ + \angle ADC = 180^\circ \Rightarrow \angle ADC = 55^\circ$$

In $\triangle ACD$,

$$\angle x + \angle ACD + \angle CDA = 180^\circ$$

$$x + 90 + 55 = 180$$

$$x = 35^\circ$$

61. (A)

$$\frac{a + 2\sqrt{ab} + b}{\sqrt{a} + \sqrt{b}} + \frac{a - 2\sqrt{ab} + b}{\sqrt{a} - \sqrt{b}} = \frac{(\sqrt{a} + \sqrt{b})^2}{\sqrt{a} + \sqrt{b}} + \frac{(\sqrt{a} - \sqrt{b})^2}{\sqrt{a} - \sqrt{b}}$$

$$= \sqrt{a} + \sqrt{b} + \sqrt{a} - \sqrt{b} = 2\sqrt{a} = 2\sqrt{9} = 6$$

62. (D)

$$\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 0$$

$$\frac{yz + xz + xy}{xyz} = 0$$

$$\Rightarrow xy + yz + xz = 0$$

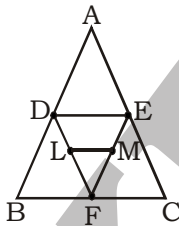
$$\Rightarrow x^2 + y^2 + z^2 = 25$$

$$\Rightarrow x^2 + y^2 + z^2 + 2(xy + yz + xz) = 25 + 0$$

$$\Rightarrow (x + y + z)^2 = (\pm 5)^2$$

$$\Rightarrow x + y + z = \pm 5$$

63. (A)



$$\frac{AB}{AD} = \frac{BC}{DE}$$

[By Similar triangles]

$$\frac{2}{1} = \frac{BC}{DE} \Rightarrow BC = 2DE$$

$$\frac{LM}{DE} = \frac{LF}{DF}$$

[By Similar triangles]

$$\frac{LM}{DE} = \frac{1}{2} \Rightarrow DE = 2LM$$

$$2 \times 2 LM = BC$$

$$LM : BC = 1 : 4$$

64. (D) $\sin^6 A + \cos^6 A + 3\sin^2 A \cos^2 A = (\sin^2 A)^3 + (\cos^2 A)^3 + 3\sin^2 A \cos^2 A (\sin^2 A + \cos^2 A)$
 $= [\sin^2 A + \cos^2 A]^3 = 1$ [$\therefore \sin^2 A + \cos^2 A = 1$]
65. (C) Height of tree = $\frac{24}{18} \times 60 = 80$ m
66. (B) Required seconds = LCM of 48, 50 and 72 = 3600 seconds = 1 hour
 They will change again at 10 a.m.
67. (B) ATQ,
 $\frac{x-1}{y-1} = \frac{1}{3} \Rightarrow 3x-3 = y-1$
 $y = 3x-2$ _____(i)
 and $\frac{x+1}{y+1} = \frac{1}{2} \Rightarrow 2x+2 = y+1$
 Substituting the value of y ,
 $2x+2 = 3x-2+1$
 $x = 2+2-1 = 3$
 $y = 3 \times 3 - 2 = 7$
 Required fraction = $\frac{3}{7}$
68. (A) Equal amounts are spent on both types of guavas.
 So, the number of first type apple bought in ₹1 = 3
 and number of second type of apple bought in ₹1 = 2
 If he sells 5 apple in ₹2, so overall he neither gains nor loses.
69. (D) Relative speed = $(50 - 30)$ km/hr = 20 km/hr
 $= 20 \times \frac{5}{18} = \frac{50}{9}$ m/s
 Length of train running at 50 km/hr = $\frac{50}{9} \times 18 = 100$ m
70. (D) Required volume = $\pi r^2 h = \frac{22}{7} \times 7 \times 7 \times 0.5 \times 50 = 3850$ cm²
71. (B)
72. (A) Miscellaneous charges = $\frac{1800}{10} \times 9 = ₹1620$
73. (D) 100% = 360°
 1% = 3.6°
 Angle for designing charges = $12 \times 3.6 = 43.2^\circ$
74. (C) Required ratio = 30 : 29
75. (C) $\frac{30}{100} \times \text{total cost} = ₹9600$
 Total cost = $\frac{9600 \times 100}{30} = ₹32000$
 \therefore Cost of transportation = 10% of total cost = $\frac{10}{100} \times 32000 = ₹3200$

MEANINGS IN ALPHABETICAL ORDER

Absurd	unreasonable, illogical, or inappropriate	बेतुका
Annihilate	destroy utterly	सर्वनाश करना
Antagonism	active hostility or opposition	सक्रिय शत्रुता या विरोध
Aversion	a strong dislike or disinclination	घृणा
Bothersome	causing irritation or annoyance	तंग करने वाला
Emphasis	special importance, value, or prominence given to something	किसी चीज को दिया जाने वाला विशेष महत्त्व, मूल्य या प्रमुखता
Ethos	the characteristic spirit of a culture, era, or community as manifested in its beliefs and aspirations	प्रकृति
Exaggerate	overstate or overemphasize	बड़ा चढ़ाकर कहना
Exhilarate	make (someone) feel very happy, animated, or elated	खुश
Idiotic	very stupid	मूर्खतापूर्ण
Ignorance	lack of knowledge or information	अज्ञान
Initiate	cause (a process or action) to begin	आरंभ करना
Innocuous	not harmful or offensive	हानि न करने वाला
Inoffensive	not objectionable or harmful	अनापत्तिजनक, स्वीकार्य
Intriguing	arousing one's curiosity or interest; fascinating	दिलचस्प
Lethargy	a lack of energy and enthusiasm	सुस्ती, आलस्य
Mundane	lacking interest or excitement; dull	उबाऊ
Naïve	(of a person or action) showing a lack of experience, wisdom, or judgment	निष्कपट
Obliterate	wipe out	मिटाना
Onslaught	a fierce or destructive attack	हमला
Overreach	the act of doing more than your authority allows	अपने अधिकार का अति प्रयोग
Praiseworthy	deserving approval and admiration	सराहनीय
Relevant	closely connected or appropriate to the matter at hand	प्रासंगिक
Revive	restore to life or consciousness	पुर्नजीवित करना
Scanty	small or insufficient in quantity or amount	थोड़ा
Swabbing	wash with a mop	झाड़ू से साफ करना
Taboo	a social or religious custom prohibiting or forbidding a particular practice	पाबंदी
Triviality	lack of seriousness or importance; insignificance	महत्त्वहीनता, तुच्छता

SSC MOCK TEST - 246 (ANSWER KEY)

- | | | | |
|---------|---------|---------|----------|
| 1. (B) | 26. (A) | 51. (C) | 76. (C) |
| 2. (C) | 27. (B) | 52. (C) | 77. (B) |
| 3. (B) | 28. (C) | 53. (A) | 78. (A) |
| 4. (D) | 29. (A) | 54. (B) | 79. (B) |
| 5. (B) | 30. (B) | 55. (B) | 80. (D) |
| 6. (C) | 31. (C) | 56. (C) | 81. (D) |
| 7. (A) | 32. (D) | 57. (A) | 82. (B) |
| 8. (C) | 33. (B) | 58. (C) | 83. (A) |
| 9. (B) | 34. (A) | 59. (B) | 84. (B) |
| 10. (B) | 35. (D) | 60. (B) | 85. (B) |
| 11. (C) | 36. (B) | 61. (A) | 86. (B) |
| 12. (B) | 37. (C) | 62. (D) | 87. (D) |
| 13. (C) | 38. (C) | 63. (A) | 88. (B) |
| 14. (A) | 39. (B) | 64. (D) | 89. (C) |
| 15. (C) | 40. (C) | 65. (C) | 90. (A) |
| 16. (C) | 41. (D) | 66. (B) | 91. (C) |
| 17. (C) | 42. (A) | 67. (B) | 92. (A) |
| 18. (A) | 43. (C) | 68. (A) | 93. (D) |
| 19. (C) | 44. (A) | 69. (D) | 94. (B) |
| 20. (C) | 45. (A) | 70. (D) | 95. (C) |
| 21. (C) | 46. (B) | 71. (B) | 96. (C) |
| 22. (B) | 47. (B) | 72. (A) | 97. (A) |
| 23. (C) | 48. (B) | 73. (D) | 98. (D) |
| 24. (B) | 49. (C) | 74. (C) | 99. (B) |
| 25. (C) | 50. (A) | 75. (C) | 100. (C) |

76. (C) Since, the sentence is in present tense, the 'if clause' should also be in present tense. Change 'placed' into 'place'.
77. (B) Change 'have' into 'has', as it should follow the subject of the sentence 'the popular belief'.
85. (B) 'Hang by a thread' is an idiom which means 'to be in a very dangerous situation or state; to be very close to death, failure, etc.'
86. (B) 'Call out' means 'to publicly criticize or fault someone or something.'
89. (C) The correct spelling of 'Intigrate' is 'Integrate', 'Exhilerate' is 'Exhilarate' and 'Exaggarate' is 'Exaggerate'.
90. (A) The correct spelling is 'Occasionally'.