
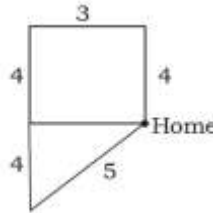
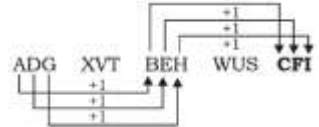
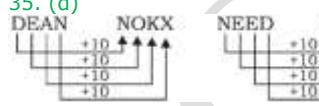
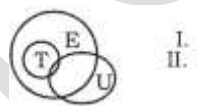
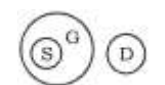
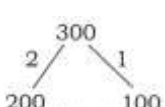


**SSC -003**  
**Test code-**  
**03GC013116**

**Short SOLUTION**

1. (b) L-12, S-19,  $\frac{L}{S} \times \frac{19}{12}$   
I-9, T-20,  $\frac{I}{T} \times \frac{20}{9}$
2. (b)  $5 = \frac{2+4+3+1}{2} = 5, 8 = \frac{5+4+6+}{2}$
3. (b)
- 
4. (a)  $(7)^2 - 1 = 48, (12)^2 - 1 = 143$   
5. (b)  $(7+2) \times 2 = 18, (5+6) \times 2 = 22$   
6. (d) A B L B C W  
1 2 12 2 3 23  
7. (d) Fruit  
8. (d) Man writes his autobiography. Similarly, a nation writes its history.  
9. (d) All three letters are vowels.  
10. (a) Bhutan is land locked country.  
11. (b) Rest three are only square. 64 is both square and cube.  
 $64 = 4^3$  or  $8^2$ .  
12. (a) All the rest are used in a computer.  
13. (a) Rest three are metro cities whereas New Delhi is a capital as well.  
14. (a) Tomato grows above the ground where as the rest grow under the ground.  
15. (d)  
16. (d)  
17. (d)  
18. (c),  $7+8=9+16, 11+?=10+10=?=20-11=9$   
19. (c) Multiply the given digit with all the digits smaller than it  
 $3 = 3 \times 2 \times 1 = 6$   
 $4 = 4 \times 3 \times 2 \times 1 = 24$   
 $5 = 5 \times 4 \times 3 \times 2 \times 1 = 120$   
20. (a)  
 $5^2 - 1^2 = 24, 3^2 - 2^2 = 5,$   
 $4^2 - 1^2 = 15, 8^2 - 3^2 = 55$   
21. (b)  
 $10^2 + \frac{10^2}{2} = 125, 16^2 + \frac{16^2}{2}$   
 $= 320, 8^2 + \frac{8^2}{2} = 80$   
22. (a) changing the sign as per the instruction  
 $5 + 2 \times 12 \div 6 - 2 = 7$   
 $5 \times 2 + 12 - 6 \div 2 = 19$   
 $5 \times 2 + 12 \div 6 - 2 = 10$   
 $5 - 2 \times 12 \div 6 + 2 = 3$   
23. (b)



24. (d)  
25. (b)
- X Y P Q Z  
• • • • •  
Most powerful Least Powerful
26. (c)  $2^3 + 5^2 = 33$   
 $3^3 + 4^2 = 43$   
 $1^3 + 6^2 = 37$   
 $3^3 + 9^2 = 108$
27. (d) cannot be determined  
28. (a) a a c b b a c c a c c b  
29. (b)
- 
30. (b)  
31. (c) REVISION  
32. (c), 33. (c), 34. (d).  
35. (d)
- 
36. (c), 37. (d), 38. (d), 39. (c), 40. (a),  
41. (d)  
42. (d)
- 
43. (d) I. No information given about boys.  
II. ✓
- 
44. (a)  
45. (d)  
 $2 \times 3 = 6, 3 \times 5 = 15, 5 \times 7 = 35$   
 $7 \times 11 = 77, 11 \times 13 = 143, 13 \times 17 = 221$   
(continuous prime number product.  
46. (d), 47. (d), 48. (c), 49. (b) 50. (c).  
51. (a) SP=Rs. 66, Loss = Rs. 11, CP =Rs. 77  
Loss % =  $\frac{11}{77} \times 100 = 14 \frac{2}{7} \%$   
52. (a)  $\frac{xy}{yx}$  hours.  
53. (d)
- 
- Relative speed of both the trains = 90 km/hr  
 $= 90 \times \frac{5}{18} = 25$  m / sec  
Total alength of both the train  
 $= S \times T = 25 \times 12 = 300$ m  
Distance in 45 seconds by first train

$$D = S \times T = 48 \times \frac{5}{18} \times 45 = 600\text{m}$$

$$D = L_T + L_p$$

$$= L_p = 600 - 200 = 400\text{m}$$

54. (a) If speed  $x/y$   
Then, usual time  
 $= \frac{x}{x \times y} \times t = \frac{4}{4 \times 3} \times 10 = 40$  minute

55. (c) A can type  $75/25=3$  pages in 1 hr.  
A+B can type  $135/27=5$  pages/hr  
B can type  $(5-3)=2$  pages /hr  
B can type 42 pages in  $42/2=21$  hrs.  
56. (b) =

$$pq + qr + rp = 0$$

$$-qr = pq + rp \dots (i)$$

$$-pq = qr + rp \dots (ii)$$

$$-rp = pq + qr \dots (iii)$$

$$\frac{p^2}{p^2 - q^2} + \frac{q^2}{q^2 - rp} + \frac{r^2}{r^2 - qp}$$

$$= \frac{p^2}{p^2 + rp + pq} + \frac{q^2}{q^2 + pq + qr} + \frac{q^2}{r^2 + q^2 + rp}$$

$$\frac{p+q+r}{p+q+r} = 1$$

57. (b) Let the daily sale be Rs. 100, then  
 $100 \times \frac{75}{100} \times \frac{130}{100} = 97.5$

Mean % decrease =  $100 - 97.5 = 2.5\%$   
58. (b)  $\tan 5^\circ \tan 10^\circ \tan 20^\circ = \tan 3 \times 5^\circ$   
 $\tan 15^\circ = 2 - \sqrt{3}$  (where  $\bullet = 5^\circ$ )

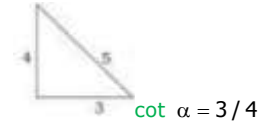
59. (a)  $2 \sin \alpha + 15 \cos^2 \alpha = 7$

$$15 \sin^2 \alpha - 2 \sin \alpha - 8 = 0$$

$$(3 \sin \alpha + 2)(5 \sin \alpha - 4) = 0$$

$$\sin \alpha = 4/5 \text{ or } -\frac{2}{3}$$

( $\alpha$  cannot be negative)

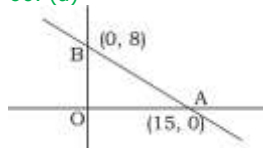


60. (c)  
 $2 \bullet R_1(R_1 + h) = \bullet(12^2 - 8^2)$

$$R_1 + h = \frac{80}{2R_1} = \frac{40}{R_1}$$

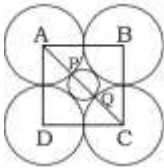
$$h = \frac{40}{R_1} - R_1 = \frac{40 \bullet R_1^2}{R_1}$$

60. (a)



$$= \sqrt{(15-0)^2 + (0-8)^2} = \sqrt{289} = 17 \text{ units}$$

62. (b) Let the radius of inner circle = r  
ABCD is a square



$$AC = \sqrt{2} \times \text{side} =$$

$$\sqrt{2}(2R) = 2\sqrt{2}R$$

$$PQ = AC - AP - QC = 2\sqrt{2}R - R - R$$

$$= 2R(\sqrt{2} - 1)$$

$$2r = 2R(\sqrt{2} - 1)$$

$$r = R(\sqrt{2} - 1)$$

63. (c) ABC is an equilateral triangle with sides = 2 cm.

Area of shaded region

= Area of  $\Delta$  ABC - Area of 3 quadrant

$$= \frac{\sqrt{3}}{4} (2)^2 - \pi \left(1^2 \cdot \frac{\theta}{360} \times 3\right)$$

[ $\theta = 60^\circ$  as triangle is equilateral triangle]

$$= \frac{\sqrt{3}}{4} \times 4 - 3 \times \pi \times 1 \times \frac{60}{360}$$

$$= \sqrt{3} - \frac{\pi}{2}$$

64. (a) Let principal be Rs. X

Then, amount = Rs. 2x

Interest = Rs. X

Let rate be r%

Then

$$x = \frac{x \times r \times 5}{100} = r = \frac{100}{5} = 20\%$$

$$65. (c) A = \frac{1+x}{2-x}$$

$$= \frac{1}{a+1} + \frac{2a+1}{a^2-1}$$

$$= \frac{3a}{a^2-1} = \frac{3 \left[ \frac{1+x}{2-x} \right]}{\left[ \frac{1+x}{2-x} \right]^2 - 1}$$

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

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

$$= \frac{3(1+x)(2-x)}{6x-3}$$

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

$$= \left[ \frac{(1+x)(2-x)}{2x-1} \right]$$

$$66. (a) \text{ speed in m/sec.} = 25 \times \frac{5}{18} = \frac{125}{18}$$

$$S = \frac{D}{T} = \frac{L_T + L_p}{T_T}$$

$$L_T + L_p = S \times T$$

$$\frac{125}{18} \times 18 = 125$$

67. (c) Let the present age of Ram and Shyam be 4x and 5x years

After 5 years

$$\frac{4x \times 5}{5x \times 5} = \frac{5}{6} \quad 24x + 30 = 25x + 25 \Rightarrow x = 5$$

Present age of Ram = 4x = 20 years

68. (d) Let Number be N

Then, % error =

$$\frac{\frac{5}{3}N \cdot \frac{3}{5}N}{\frac{5}{3}N} = \frac{16 \times 3}{15 \times 5} \times 100 = 64\%$$

$$69. (c) \left[ 1 + \frac{1}{x+1} \right] \left[ 1 + \frac{1}{x+2} \right]$$

$$\left[ 1 + \frac{1}{x+3} \right] \left[ 1 + \frac{1}{x+4} \right]$$

$$= \frac{x+2}{x+1} \times \frac{x+3}{x+2} \times \frac{x+4}{x+3} \times \frac{x+5}{x+4}$$

$$\frac{x+5}{x+1}$$

70. (c)

$$20\% - 20\% = \frac{(20)(-20\%)}{100} = -4\%$$

71. (b)  $(4 \times 4 - 3 \times 5)\%$  of sum = 80

100% of sum = 800

72. (d) Let the distance from starting point be x

speed of man downstream = 5 + 1.5 = 6.5 km/hr

Speed of man upstream

$$= 5 - 1.5 = 3.5 \text{ km/hr.}$$

Speed of man upstream

$$= 5 - 1.5 = 3.5 \text{ km/hr}$$

Then, we have

$$\frac{x}{6.5} + \frac{x}{3.5} = 1 = 10x = 6.5 \times 3.5$$

$$= x = \frac{22.75}{10} = 2.275$$

73. (b) suppose B joins for x months. Then,

$$\frac{450 \times 12}{300 \times x} = \frac{2}{1} \Rightarrow x = \frac{450 \times 6}{300} = 9 \text{ months}$$

B joins after 12 - 9 = 3 months.

74. (a)

Rate  $\times$  consumption = expenditure

$$10/\text{kg} \times 10 \text{ kg} = 100$$

+32% increment 10%

$$\text{Increment } 13.20 \text{ kg} \times x = 110$$

$$X = 110/13.2 = 100/12 = 8 \frac{1}{3} \text{ kg}$$

75. (a)

$$\text{C.P.} = ₹ 100, \text{M.P.} = ₹ 120$$

$$D = \frac{15}{100} \times 120 = 18$$

$$\text{S.P.} = ₹ 102$$

$$P\% = \frac{P}{\text{C.P.}} \times 100$$

$$= \frac{2}{100} \times 100 = 2\%$$

76. (b)

$$\frac{M_1 P_1}{W_1} = \frac{M_2 P_2}{W_2}$$

$$M_2 = \frac{M_1 P_2 W_2}{D_2 W_1}$$

$$= \frac{45 \times 200 \times 7.5}{150 \times 4.5} = 100$$

Extra men = 100 - 45 = 55 men.

77. (b)

$$\frac{1}{x+1} + \frac{2}{y+2} + \frac{1009}{z+1009}$$

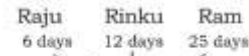
$$= \frac{1}{x+1} - 1 + \frac{2}{y+2} - 1 + \frac{1009}{z+1009} - 1 = 1 - 3$$

$$\frac{1-x-1}{x+1} + \frac{2-y-2}{y+2} + \frac{1009-z-1009}{z+1009} = -2$$

$$\left( \frac{-x}{x+1} \right) + \left( \frac{-y}{y+2} \right) + \left( \frac{-z}{z+1009} \right) = -2$$

$$\frac{x}{x+1} + \frac{y}{y+2} + \frac{z}{z+1009} = 2$$

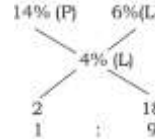
78. (a)



$$\text{Efficiency} = 4 + 2 + 1 = 7 \text{ units/day}$$

$$\text{Required time} = \frac{24}{7} = 3 \frac{3}{7}$$

79. (b)



$$\text{On 14\% profit} = \frac{1}{10} \times 50 = 5 \text{ kg}$$

$$\text{On 6\% loss} = \frac{9}{10} \times 50 = 45 \text{ kg}$$

$$80. (a) \frac{8 \times 16}{16 - 8} = 16 \text{ hour}$$

$$81. (b) \cos(\alpha + \beta) = 0$$

$$\cos(\alpha + \beta) = \cos 90^\circ$$

$$(\alpha + \beta) = 90^\circ$$

$$\alpha = 90 - \beta$$

$$\text{Now } \sin(\alpha - \beta) = \sin(90 - 2\beta)$$

$$= \cos 2\beta$$

82. (a) P = Rs. 16000

R = 5% annum

i.e., 5/2% (half yearly)

$$T = 1 \frac{1}{2} \text{ years} = 3 \text{ half years}$$

$$5/2\% = 1/40$$

P

A

$$(40)^3$$

$$(41)^3$$

$$(64000) \text{ unit} : 68921 \text{ units}$$

↓

Rs. 16000

1 unit  $\rightarrow$  Rs. 1/4

C.I. = (68921 - 64000) unit

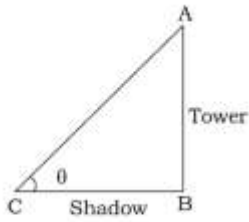
$$= 4921 \times \frac{1}{4} = \text{Rs. } 1230 \frac{1}{4}$$

83. (a) For no solution

$$\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$$

$$\frac{1}{3} = \frac{2}{k} \neq \frac{5}{-15} \Rightarrow k = 6$$

84. (c)



$$\tan \theta = \frac{AB}{BC} = \frac{x}{\frac{x}{\sqrt{3}}} = \sqrt{3} = \tan 60^\circ$$

$$\theta = 60^\circ$$

85. (c) We know that

$$\sqrt{y\sqrt{7\sqrt{\dots\infty}}} = 7$$

Given

$$7 = (343)^{y-1}$$

$$(7)^1 = (7)^{3(y-1)}$$

$$3y-3=1$$

$$y=4/3$$

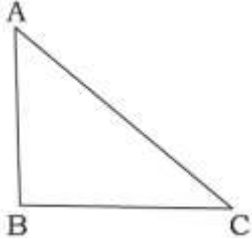
86. (b)

$$a = \frac{1}{2-\sqrt{3}} + \frac{1}{3-\sqrt{8}} + \frac{1}{4-\sqrt{5}}$$

$$a + 2\sqrt{3} + 3 + \sqrt{8} + 4 + \sqrt{15} = 9 + 1.732 + 2.828 + 3.87 = 17.43 < 18$$

87. (d) Power of x must be a positive integer.

88. (a)  $AB=BC=x$  units.



$$AC = \sqrt{(AB)^2 + (BC)^2}$$

$$= \sqrt{x^2 + x^2} = \sqrt{2} \cdot x$$

Now, Perimeter =  $2p$

$$2x + \sqrt{2} \cdot x = 2p$$

$$x = \frac{2p}{(2 + \sqrt{2})}$$

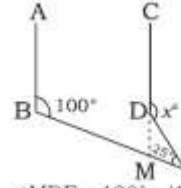
$$x = (2 - \sqrt{2})p$$

$$\text{Area of } \triangle ABC = \frac{1}{2} \times x^2$$

$$= \frac{1}{2} (2 - \sqrt{2})^2 p^2$$

$$(3 - 2\sqrt{2})p^2 \text{ sq. units.}$$

89. (a)



$$\angle MDE = 180^\circ - (100 + 25) = 55^\circ$$

$$\angle CDE = 180^\circ - 55^\circ = 125^\circ$$

90. (a)

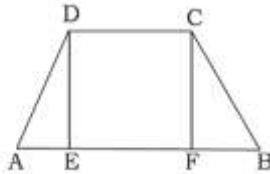
$$\angle A + \angle E + \angle C = 180^\circ$$

$$\angle B + \angle F + \angle D = 180^\circ$$

Then,

$$\angle A + \angle B + \angle C + \angle D + \angle E + \angle F = 360^\circ$$

91. (a)



In  $\triangle ABC$ ,  $\angle B$  is acute angle

$$AC^2 = BC^2 + AB^2 - 2AB \cdot AE$$

In  $\triangle ABD$ ,  $\angle A$  is acute angle

$$\triangle BD^2 = AD^2 + AB^2 - 2AB \cdot AF$$

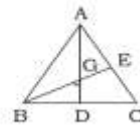
Then,

$$AC^2 + BD^2 = BC^2 + AD^2 + 2AB(AB - BE - AF)$$

$$= BC^2 + AD^2 + 2AB \cdot EF$$

$$= BC^2 + AD^2 + 2AB \cdot CD$$

92. (c)



$$AD = 9 \text{ cm} = GD = \frac{1}{3} \times 9 = 3 \text{ cm}$$

$$BE = 6 \text{ cm} = BG = \frac{2}{3} \times 6 = 4 \text{ cm}$$

$$BD = \sqrt{3^2 + 4^2} = 5 \text{ cm}$$

93. (b) length of common tangent =

$$\sqrt{d^2 \times (R \times r)^2}$$

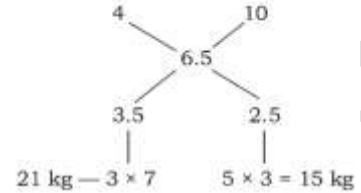
94. (a) Let the number be x and y so,

$$\frac{75}{100} \times x = \frac{3}{7} \times y$$

$$\frac{x}{y} = \frac{3}{7} \times \frac{100}{75} = 4/7$$

$$x : y = 4 : 7$$

95. (d)



Hence 21 kg should be added.

96. (c) Required average

$$(5 + 10 + 25 + 15) \times 1000$$

$$\frac{6 \times 100000}{6} = 16666 \frac{2}{3}$$

97. (d) Required percentage =

$$\frac{(X + Y + Z) \text{ in } 2007}{(X + Y + Z) \text{ in } 2008} \times 100$$

$$= \frac{55 \times 1000}{60 \times 1000} \times 100 = 91.67\%$$

98. (a) Required % =

$$\frac{X \text{ in } 2006}{(X + Y + Z) \text{ in } 2006} \times 100$$

$$= \frac{10 \times 1000}{55 \times 1000} \times 100 = 18\% \text{ (approx)}$$

99. (b) Respective Ratio

$$= (Z \text{ in } 2005) : (Z \text{ in } 2004)$$

$$= (15 \times 1000) : (10 \times 1000) = 3 : 2$$

100. (d) Required number = Y in 2008 + Y in 2009

$$= (25 \times 1000) + (15 \times 1000)$$

$$= 40 \times 1000 = 40000$$

**Answersheet SSC -3 Mock Test**

1. (B)	26.(C)	51.(A)	76.(B)	101. (D)	126. (A)	151. (C)	176. (B)
2. (B)	27.(D)	52.(A)	77.(B)	102. (D)	127. (A)	152. (D)	177. (A)
3. (B)	28.(A)	53.(D)	78.(A)	103. (B)	128. (B)	153. (A)	178. (C)
4. (A)	29.(B)	54.(A)	79.(B)	104. (B)	129. (D)	154. (A)	179. (A)
5. (B)	30.(B)	55.(C)	80.(A)	105. (C)	130. (A)	155. (D)	180. (D)
6. (D)	31.(C)	56.(B)	81.(B)	106. (B)	131. (A)	156. (A)	181. (B)
7. (D)	32.(C)	57.(B)	82.(A)	107. (B)	132. (C)	157. (B)	182. (C)
8. (D)	33.(C)	58.(B)	83.(A)	108. (C)	133. (B)	158. (C)	183. (A)
9. (D)	34.(D)	59.(A)	84.(C)	109. (C)	134. (C)	159. (C)	184. (D)
10.(A)	35.(D)	60.(C)	85.(C)	110. (B)	135. (C)	160. (A)	185. (D)
11.(C)	36.(C)	61.(D)	86.(B)	111. (B)	136. (B)	161. (C)	186. (D)
12.(A)	37.(D)	62.(C)	87.(D)	112. (B)	137. (C)	162. (B)	187. (A)
13.(A)	38.(D)	63.(C)	88.(A)	113. (A)	138. (B)	163. (B)	188. (C)
14.(A)	39.(C)	64.(A)	89.(A)	114. (B)	139. (C)	164. (A)	189. (C)
15.(D)	40.(A)	65.(C)	90.(A)	115. (A)	140. (B)	165. (B)	190. (B)
16.(D)	41.(D)	66.(A)	91.(A)	116. (A)	141. (C)	166. (B)	191. (A)
17.(D)	42.(D)	67.(C)	92.(C)	117. (C)	142. (C)	167. (B)	192. (A)
18.(C)	43.(D)	68.(D)	93.(B)	118. (A)	143. (C)	168. (B)	193. (B)
19.(C)	44.(A)	69.(C)	94.(A)	119. (C)	144. (B)	169. (B)	194. (D)
20.(A)	45.(D)	70.(C)	95.(D)	120. (C)	145. (D)	170. (D)	195. (B)
21.(B)	46.(D)	71.(B)	96.(C)	121. (B)	146. (B)	171. (C)	196. (C)
22.(A)	47.(D)	72.(D)	97.(D)	122. (A)	147. (A)	172. (A)	197. (D)
23.(B)	48.(C)	73.(B)	98.(A)	123. (B)	148. (A)	173. (B)	198. (D)
24.(D)	49.(B)	74.(A)	99.(B)	124. (C)	149. (A)	174. (B)	199. (D)
25.(B)	50.(C)	75.(A)	100.(D)	125. (B)	150. (D)	175. (A)	200. (D)

156. aligns: श्रेणीबद्ध करना;develops: विकसित करना;  
Leadership can only align people with vision and cannot develop,train or encourage  
157.contradiction: विरुद्धता,  
adherence: अनुपालन;  
indifference: बेपरवाही;  
repugnance: अरुचि  
So people will follow(adhere to)suggestions  
158.consolidated: संगठित;abated: शान्त करना;normalized: सामान्य बनाना  
The intensity of the storm will lessen:abate  
159.preposition rule:  
Agree to proposal and agree with a person  
166.vigilant: सावधान;vigorous: जोरदार; conscious: सतर्क;watchful: सावधान;  
167.cherish: अच्छा लगना;admire: गुण गाना;Flatter: चापलूसी करना;value:  
उपयोगिता:appreciate: तारीफ करना  
So appreciate will be the best synonym of cherish  
168.congregation: धार्मिक सभा;meeting : सभा

169.repudiate: परित्याग;disown:  
परित्याग;decline: गिरावट;beget: कारण होना:acknowledge: कबूलना  
So repudiate and acknowledge will be opposites  
170.salubrious: स्वास्थ्यकरी;unwholesome: अस्वास्थ्यकर  
171.lucid: सुस्पष्ट;clear so opposite of lucid is lacking clarity  
172.mug shot: सुस्पष्ट;  
173.chicanery: हेरा-फेरी;stratagem: a plan or scheme, especially one used to outwit an opponent or achieve an end;artifice: clever or cunning devices or expedients, especially as used to trick or deceive others.  
174)fugitive: भगोड़ा; refugee: शरणार्थी; escapist: पलायनवादी  
175)hindsight: understanding of a situation or event only after it has happened or developed.:foresee: be aware of beforehand:  
predict.;foretell: predict (the future or a future event):.omen: शकुन  
176)go dutch: share the cost of something, especially a meal, equally.  
177)on the dot: exactly on time.