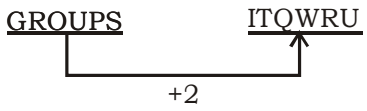
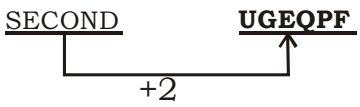
SSC MOCK TEST - 286 (SOLUTION)

1. (D) As, 'Swim' is related the 'Water'. Similarly 'Fly' is related to 'Air'.
2. (B) As,



Similarly,



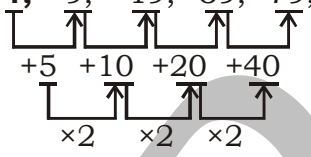
3. (B) 58531 is a multiple of 11 and 78363 is a multiple of 9.
4. (C)

I	J	K	R	Q	P	**B**	**C**	**D**	**W**	**X**	**Y**
9	10	11	18	17	16	**2**	**3**	**4**	**23**	**24**	**25**

F	G	H	U	T	S	K	L	M	P	O	N
6	7	8	21	20	19	11	12	13	16	15	14

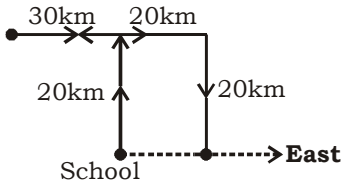
5. (D) $67559 \Rightarrow 6^3 + 7^3 = 216 + 343 = 559$
$45189 \Rightarrow 4^3 + 5^3 = 64 + 125 = 189$
$56341 \Rightarrow 5^3 + 6^3 = 125 + 216 = 341$
54321 $\Rightarrow 5^3 + 4^3 = 125 + 64 \neq 321$
6. (C)
7. (D) 3. Xanthic → 4. Xenians → 1. Xenons → 2. Xylyl → 5. Xyst
8. (B) EFGHI, LMNO, RST, W X, **A**

9. (B) **4,** 9, 19, 39, 79,



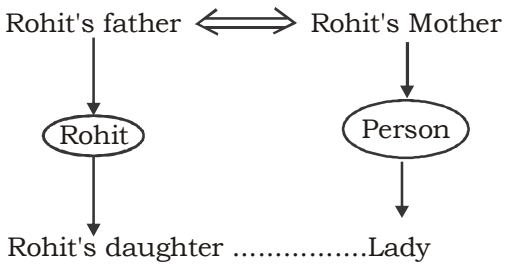
10. (B) 132 & 3 # 10 @ 20 % 2
After changing the signs as per the give details,
132 ÷ 3 – 10 + 20 × 2
= 44 – 10 + 40 = 74
11. (C) As,
C O P I O U S
2 3 4 5 3 8 9
And,
G E N E R O U S
1 6 7 6 0 3 8 9
Similarly,
P I G E O N
4 5 1 6 3 7

12. (D) As,
$17^2 + 8^2 = 353$
$13^2 + 11^2 = 290$
Similarly,
$15^2 + \mathbf{7^2} = 274$

13. (C)


14. (D) **r**abbi**t**/r**a**b**b**it/**r**ab**b**it

15. (C)

16. (D)


Lady is either daughter or niece of Rohit.

17. (C) In a clock, two times minutes and hour hand make an angle 90° in each hour, except 2-3, 3-4, 8-9 and 9-10 o'clock. So, in 24 hour, 44 times it will make an angles of 90°.

18. (C) Number of days from 1st June to 3rd December
= 29 + 31 + 31 + 30 + 31 + 30 + 3 = 185

Number of odd days = $\frac{185}{7} \Rightarrow 3$

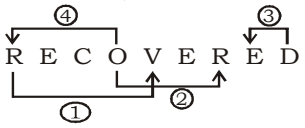
$\therefore$ Required day = Thursday + 3 = Sunday

19. (C)

20. (C) As, TEMPORARY
↕↕↕↕↕↕↕↕↕
EPRSAYOYM

And, EXCUSE
↕↕↕↕↕↕↕
PGNVXP

Similarly, ASSURE
↕↕↕↕↕↕↕
OXXVYP

21. (C)


4 pairs of letters are RV, OR, DE and OR.

22. (C) 23. (B) 24. (D) 25. (D)

26. (B) In the wake of the death of Alexander the Great in 323 BCE, Chandragupta (or Chandragupta Maurya), founder of the Mauryan dynasty.

28. (B) The Khasi and Jaintia Hills are a mountainous region that was mainly part of Assam and Meghalaya.

29. (C) Article 343(1) of the Constitution provides that Hindi in Devanagari script shall be the Official Language of the Union.

30. (D) Freon is the trademarked name for a liquid refrigerant used in refrigerators as well as air conditioners, heat pumps and other appliances used in heating and cooling.

31. (D) Zirconium is from the group of Atomic element and comes in the series of Uranium, Thorium etc. whereas Tritium, Francium and Astatine are radioactive elements always producing Alpha, Beta and Gama rays.

32. (B) Pancreas is the gland that performs both exocrine and endocrine functions.

35. (C) The Rath Yatra is held at Puri (Odisha) in Asharh (June-July). The images of Jagannath, his brother Balaram and sister Subhadra are taken out in procession from the temple on three massive wooden chariots.

37. (C) A rift valley is an elongated trough like feature bounded by faults. The term 'graben' is considered synonymous to rift valley.

38. (D) Cash crops are those crops which are grown for sale in the market either in raw form or in semi-processed form. Thus, cash crops have special characteristic of earning cash for the farmers. Prominent among the cash crops are cotton, jute, sugarcane, tobacco and oilseeds.

39. (C) The Scandinavian institution of Ombudsman (ombud is a Swedish term and refers to a person who acts as the representative or spokesman of other person) created in Sweden in 1809 is the earliest democratic institution in the world for the redressal of citizen's grievances. The Ombudsman in India is called as Lokpal Lokayukta.

40. (D) Mercury takes 88 days only for one revolution round the sun, the next fastest is Venus which takes 225 days as against 248 years by Pluto.

41. (B) (A) Sodium hydroxide - NaOH is caustic soda

(B) Sodium carbonate - Na_2C_3 is washing soda

(C) Sodium bicarbonate - $NaHCO_3$ is baking soda

42. (B) Haemophilia: transfers through genes. Diabetes: due to disorder of insulin. Rickets: due to deficiency of vitamin-D, Ringworm: due to fungal infection.

43. (B) Vikram Sarabhai Space Centre develops rocket launching vehicles.

45. (A) The Rig Veda is a collection of Vedic Sanskrit hymns counted among the four Hindu religious texts known as the Vedas. The Rig Veda was likely composed between roughly 1700-1100 BCE, making it one of the oldest texts of any Indo-Iranian language, one of the world's oldest religious texts.

46. (C) Caspian Sea, Russian Kaspiyskoye More, Persian Darya-ye Khezer, world's largest inland body of water.

48. (A) At the time of jumping out he has the same velocity as the moving train. Underlying principle is Newton's First Law of Motion.

49. (B) Ammonia (NH_3) gas is extremely soluble in water. One volume of water dissolves nearly 1200 volumes of the gas.

50. (C) Blood pressure is measured with an instrument called a sphygmomanometer.

51. (A) Let the total work = 60

P's 1 day work = $\frac{60}{20} = 3$

Q's 1 day work = $\frac{60}{15} = 4$

R's 1 day work = $\frac{60}{10} = 6$

(Q + R)'s 3 day work = (4 + 6)× 3 = 30

Remaining work = 60 – 30 = 30

Number of days taken by P to complete the remaining work = $\frac{30}{3}$ = 10 days

52. (B) $(a - b)^2 = a^2 + b^2 - 2ab$

$(6)^2 = a^2 + b^2 - 2 \times 30$

$a^2 + b^2 = 36 + 60 = 96$

$\therefore$ $a^3 - b^3 = (a - b)(a^2 + b^2 + ab)$

$= 6 \times (96 + 30) = 6 \times 126 = 756$

53. (D) Let the CP of an article = ₹ 100

Original SP = $100 \times \frac{75}{100}$ = ₹ 75

Second SP = $100 \times \frac{110}{100}$ = ₹ 110

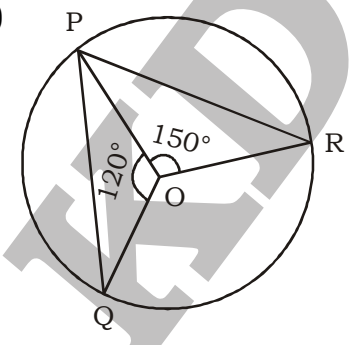
ATQ,

$(110 - 75) \rightarrow 70$

$100 \rightarrow \frac{70}{35} \times 100 = ₹\ 200$

$\therefore$ Original SP = $200 \times \frac{75}{100}$ = ₹ 150

54. (A)



Given that PQ and PR subtend 120° and 150° respectively at the centre O.

$\angle POQ = 120°$ and $\angle POR = 150°$

$\angle POQ + \angle POR + \angle QOR = 360°$

$120° + 150° + \angle QOR = 360°$

$\angle QOR = 360° - 270° = 90°$

Now,

$\angle QPR = \frac{1}{2}\angle QOR$ (Angle subtended by the arc at the centre is double the angle subtended by it at any point on the circle).

$\therefore \angle QPR = \frac{1}{2} \times 90° = 45°$

55. (C) Total number of employees = 350

Number of male employees = $\frac{350}{7} \times 5$ = 250

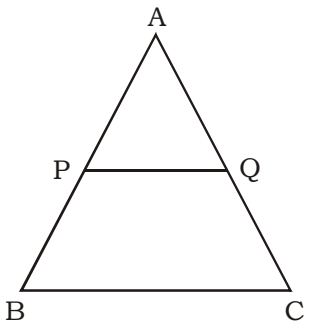
Number of female employees = $\frac{350}{7} \times 2$ = 100

After 60 females joined, the total number of females = 100 + 60 = 160

Total number of males = $\frac{160}{4} \times 7$ = 280

$\therefore$ Required number of males to join = 280 – 250 = 30

56. (B)



Given: $PQ \parallel BC$

The area of quadrilateral PBCQ = 150 cm^2

AP : PB = 3 : 5

$\therefore$ AB = 3 + 5 = 8

From given, we have,

$\Delta ABC \sim \Delta APQ$

$\frac{\text{area}(\Delta ABC)}{\text{area}(\Delta APQ)} = \left(\frac{AB}{AP}\right)^2$

$\frac{\text{area}(\Delta APQ) + \text{area}(\square PBCQ)}{\text{area}(\Delta APQ)} = \left(\frac{AB}{AP}\right)^2$

Let the area of ΔAPQ = x cm^2

$\frac{x + 165}{x} = \left(\frac{8}{3}\right)^2$

$$\frac{x+165}{x}=\frac{64}{9}$$

$64x = 9x + 1485$

$55x = 1485$

$$x=\frac{1485}{55}=27\ cm^2$$

57. (D) We have,

$\sin(90° + A) = \cos A$ and $\cos(90° – A) = \sin A$

Applying the above formulas, the expression becomes,

$\cos2A \times (4 – \sin^2 2A)$

Also, $\sin2A = 2\sin A.\cos B$

$\cos2A \times (4 – 4\sin^2A.\cos^2A) = 4 \times \cos2A \times (1 – \sin^2A.\cos^2A)$

Substituting $(\sin^2A + \cos^2A)^2$ instead of 1, we get

$4 \times \cos2A \times [(\sin^2A + \cos^2A)^2 – \sin^2A.\cos^2A]$

$4 \times \cos2A \times (\sin^4A + \cos^4A + \sin^2A.\cos^2A)$

$4 \times (\cos^2A – \sin^2A) \times [\sin^4A + \cos^4A + \sin^2A.\cos^2A] = 4 (\cos^6A – \sin^6A)$

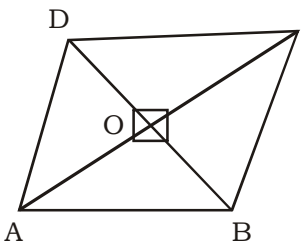
58. (B) Diagonal of room $= \sqrt{12^2+4^2+3^2} = \sqrt{144+16+9}$

$=\sqrt{169}=13\,m$

So, only 12 m and 15 m long rods keep in this room.

∴ Maximum number of rods = 2

59. (D)



Let AC = 32 cm

BD = 24 cm

We know that the diagonals of rhombus bisect each other at right angle.

∴ AO = OC and OB = OD

$OD \perp AC$

In ΔAOD,

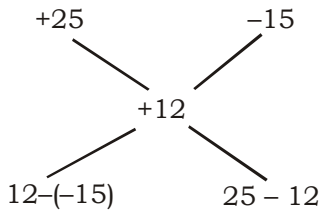
$$AD=\sqrt{OD^2+OA^2}=\sqrt{\left(\frac{BD}{2}\right)^2+\left(\frac{AC}{2}\right)^2}$$

$$=\sqrt{\left(\frac{24}{2}\right)^2+\left(\frac{32}{2}\right)^2}=\sqrt{12^2+16^2}$$

$=\sqrt{144+256}=\sqrt{400}$ = 20 cm

∴ Perimeter of rhombus ABCD = 4 × 20 = 80 cm

60. (A) Total number of items = 80
By alligation method,



Ratio = 27 : 13
Ratio of number of items sold at 25% profit and 15% loss = 27 : 13

$\therefore$ Number of items sold at 15% loss $= \frac{80}{27+13} \times 27 = \frac{80}{40} \times 27 = 54$

61. (A) Perimeter of rectangle = 2(35 + 25) = 120 m
Now, perimeter of square = 120 m

Side of square = $\frac{120}{4}$ = 30 m

$\therefore$ Area of square = $(30)^2 = 900\ m^2$

62. (D) Let the speed of car = x km/hr

Speed of train = $x \times \frac{140}{100} = \frac{7x}{5}$ km/hr

ATQ,

$$\frac{80}{x} - \frac{80}{\frac{7x}{5}} = \frac{12.5}{60}$$

$$\frac{80}{x} - \frac{400}{7x} = \frac{12.5}{60}$$

$$\frac{560-400}{7x} = \frac{12.5}{60}$$

$$\frac{160}{7x} = \frac{12.5}{60}$$

$$x = \frac{60 \times 160}{7 \times 12.5} = \frac{768}{7} \text{ km/hr} = 109\frac{5}{7} \text{ km/hr}$$

63. (A) Part of the cistern filled in 3 min = $\frac{3}{12} + \frac{3}{16} = \frac{21}{48} = \frac{7}{16}$

Let remaining $\frac{9}{16}$ part was filled in x min.

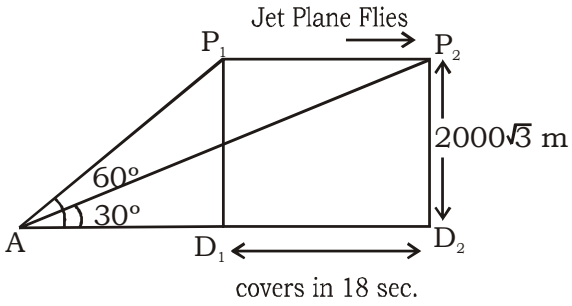
ATQ,

$$\frac{x}{12} \times \frac{7}{8} + \frac{x}{16} \times \frac{5}{6} = \frac{9}{16}$$

$$x\left(\frac{7+5}{96}\right) = \frac{9}{16}$$

$$x = \frac{9}{16} \times \frac{96}{12} = 4.5 \text{ min}$$

64. (A)



covers in 18 sec.

In ΔAP_1D_1,

$$\tan 60° = \frac{P_1D_1}{AD_1} = \frac{2000\sqrt{3}}{AD_1}$$

$$\sqrt{3} = \frac{2000\sqrt{3}}{AD_1}$$

$AD_1 = 2000$ m

In ΔAP_2D_2,

$$\tan 30° = \frac{P_2D_2}{AD_2} = \frac{2000\sqrt{3}}{AD_2}$$

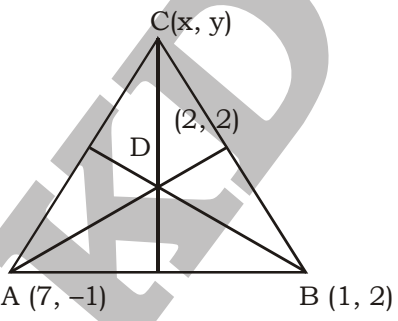
$$\frac{1}{\sqrt{3}} = \frac{2000\sqrt{3}}{AD_2}$$

$AD_2 = 6000$ m

$\therefore$ $D_1D_2 = 6000 - 2000 = 4000$ m

Speed of the Jet = $\frac{4000}{18} \times \frac{18}{5} = 800$ km/h

65. (A)



Let co-ordinate of vertex C be (x, y).

$$2 = \frac{7 + 1 + x}{3}$$

$6 = 8 + x$

$x = -2$

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

$6 = 1 + y$

$y = 5$

$\therefore$ $(x, y) = (-2, 5)$

66. (D) Let his deposit = ₹ 100

Interest for first 2 years = ₹ 6

Interest for first 3 years = ₹ 24

Interest for the last year = ₹ 10

Total interest = ₹ 40

When interest is ₹ 40, deposited amount is ₹ 100.

When interest is ₹ 1520, deposited amount = $\frac{100}{40} \times 1520$ = ₹ 3800

67. (A) $\tan 15^\circ = 2 - \sqrt{3}$

$\tan 15^\circ \cot 75^\circ + \tan 75^\circ . \cot 15^\circ$

$= \tan^2 15^\circ + \frac{1}{\tan^2 15^\circ}$

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

$= 4 + 3 - 4\sqrt{3} + 4 + 3 + 4\sqrt{3} = 14$

68. (C) If h and x are height and base of the triangle.

ATQ,

$\frac{1}{2} hx = 150$

$hx = 300$

and $h + x + \sqrt{h^2 + x^2} = 60$

By hit and trial method, we take

$h = 20$ m, $x = 15$ m

Hence, largest side = $\sqrt{20^2 + 15^2} = \sqrt{625} = 25$ m

69. (B) $\because$ AB + BC = 12
BC + CA = 14
CA + AB = 18
2(AB + BC + CA) = 44
$\therefore$ AB + BC + CA = 22

Perimeters of the circle = $2\pi r$

$2 \times \frac{22}{7} \times r = 22$

$r = \frac{7}{2} = 3.5$

Hence, the radius of circle = 3.5 cm

70. (D) $\frac{8x}{3}+\frac{\left[7\left(5-\frac{2x}{3}\right)\right]}{2}=\frac{1}{2}$

$\frac{8x}{3}+\frac{35-\frac{14}{3}x}{2}=\frac{1}{2}$

$\frac{8x}{3}+\frac{105-14x}{6}=\frac{1}{2}$

$\frac{16x+105-14x}{6}=\frac{1}{2}$

$2x + 105 = 3$

$2x = 3 - 105$

$2x = -102$

$x=-\frac{102}{2}$

$x = -51$

71. (C) Let a be the first term and d be the common difference of an A.P.

$a_2 = a + (2 - 1)d$

$17 = a + d$ .....(i)

$a_8 = a + (8 - 1)d$

$-1 = a + 7d$ .....(ii)

On solving equations (i) and (ii),

$d = -3$ and $a = 20$

$a_{14} = a + (14 - 1)d$

$a_{14} = 20 + (13)(-3)$

$a_{14} = 20 - 39 = -19$

72. (A) Number of students coming by Bus = $\frac{7200\times 50^\circ}{360^\circ}=1000$

73. (D) Total angle = $20^\circ + 50^\circ = 70^\circ$

Required number = $\frac{7200\times 70^\circ}{360^\circ}=1400$

74. (B) Ratio of number of students who come by Foot and the number of students who used Two-wheeler $=\frac{20^\circ}{120^\circ}=\frac{1}{6}=1:6$

75. (D) Number of students come by Cycle and Bus = $\frac{(110^\circ+50^\circ)}{360^\circ}\times 7200 = \frac{160^\circ}{360^\circ}\times 7200 = 3200$

Number of students come by Two-wheeler = $\frac{120^\circ}{360^\circ}\times 7200 = 2400$

$\therefore$ Exceed % = $\left(\frac{3200-2400}{2400}\times 100\right)\% = \left(\frac{800}{2400}\times 100\right)\% = 33\frac{1}{3}\%$

MEANINGS IN ALPHABETICAL ORDER

Allude	suggest or call attention to indirectly; hint at	संकेत करना
Arid	(of land or a climate) having little or no rain; too dry or barren to support vegetation	शुष्क
Assertion	a confident and forceful statement of fact or belief	अभिकथन
Aversion	a strong dislike or disinclination	घृणा
Bare	(of a person or part of the body) not clothed or covered	नंगा
Bashful	reluctant to draw attention to oneself; shy	संकोची
Boisterous	(of a person, event, or behavior) noisy, energetic, and cheerful; rowdy	उद्दाम
Burglar	a person who commits burglary	सेंधमार
Campaign	an organized course of action to achieve a goal	अभियान
Canvass	solicit votes from (electors in a constituency)	वोट मांगना
Captivate	attract and hold the interest and attention of; charm	मोहित
Commodious	(especially of furniture or a building) roomy and comfortable	विशाल
Confined	(of a space) restricted in area or volume; cramped	सीमित
Constancy	the quality of being faithful and dependable	भक्ति
Desist	cease; abstain	बंद कर देना
Fascinate	draw irresistibly the attention and interest of (someone)	रिझाना
Impede	delay or prevent (someone or something) by obstructing them; hinder	बांधा डालना
Inhibit	hinder, restrain, or prevent (an action or process)	रोकना
Intruder	a person who intrudes, especially into a building with criminal intent	बिना अधिकार के प्रवेश करने वाला
Luscious	(of food or wine) having a pleasingly rich, sweet taste	सुस्वाद
Obstreperous	noisy and difficult to control	प्रचंड
Offend	cause to feel upset, annoyed, or resentful	अपमान
Podiatrists	a person who treats the feet and their ailments	पद चिकित्सक
Prohibit	formally forbid (something) by law, rule, or other authority	रोकना
Repentant	expressing or feeling sincere regret and remorse; remorseful	पश्चाताप
Reticent	not revealing one's thoughts or feelings readily	मौन रहने वाला
Roomy	(especially of accommodations) having plenty of room; spacious	विशाल
Succulent	(of food) tender, juicy, and tasty	रसीला
Taciturn	(of a person) reserved or uncommunicative in speech; saying little	अल्पभाषी
Torrid	very hot and dry	गरम
Vandal	action involving deliberate destruction of or damage to public or private property	बर्बरता
Virtuous	having or showing high moral standards	धार्मिक

SSC MOCK TEST - 286 (ANSWER KEY)

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

76. (B) Replace ‘appreciating’ with ‘appreciated’. (The verb coming after ‘and’ or ‘but’ takes the same form as its counterpart before ‘and’ or ‘but’ (admired)

77. (A) Replace ‘had’ with ‘would have’ as the sentence is past conditional (if).

90. (A) The correct spelling of 'Virtuos' is 'Virtuous', 'Desit' is 'Desist' and 'Constency' is 'Constancy'.

91. (B) The correct spelling of 'Avertion' is 'Aversion', 'Repantant' is 'Repentant' and 'Allode' is 'Allude'.