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Find the share of Rahul's profit



N. Vinaykumar Reddy Director, IACE, Hyderabad.

MODEL QUESTIONS

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Directions(Q. No.1-2): There are total 7200 employees in a company. They are allotted to different departments. The various department of the company are indicated below in the pie-chart. Study the pie-chart and answer the following questions. (Take approximately *nearest value.*)



1. What percentage of the employees are in Accounts department?

- a) 14.73% b) 14.03% c) 14.17% d) 14.49% e) None of these
- 2. How many employees are there in the Management department? b) 1450 a) 1540 c) 1054 d) 1350 e) None of these
- **3.** If 15% of the employees of HR de partment are shifted to the Marketing department, then find the number of employees in the Marketing depart ment after shifting? b) 1419 a) 1499 c) 1409 e) None of these d) 1449
- 4. What is difference between the number of employees in Sale depa rtment and Finance department? a) 30 b) 45 c) 50
 - d) 40 e) None of these
- 5. The number of employees in management department is appr oximately what percentage more or less than number of employees in accounts department. a) 50.30% b) 50.72% c) 50.49% d) 50.98% e) None of these
 - Directions (Q.No.6-10): Find

e g of					Directions (Q.No.11-15): Study the following bar graph carefully and answer the questions given below it. Production of Pesticides by a Company (in 1000 tones) over the years.
	6.	5040, 72	20, 4320,	864, 3456,	11. In how many of the given years
		1152, ?	1 1 (0 4		was the production of pesticides
-		a) 1924	b) 1624	c) 2000	more than the average production
l-	-	d) 1804	e) 2304	n 04 9	of the given years?
	7.	164, 201,	220, 201, 200	284, ?	a) One b) Two c) Three d) Eour
		a) 521	0) 529	c) 500	12 What was the percentage dealine
n	a) 572 b) 299 8 14 10 35 50 131 170 2			170 9	in the production of pesticides
	0.	a) 201	b) 231	c) 299	from 2012 to 2013?
e		d) 331	e) 399	0) 277	a) 20% b) 25% c) 30%
s	9.	3, 5, 13, 1	19. 31. 41.	?	d) 22% e) None of these
		a) 52	b) 55	c) 57	13. What was the percentage increase
		d) 61	e) 67	,	in production of pesticides in 2017
	10. 512, 343, 216, ?, 64				compared to that in 2010?
		a) 145	b) 135	c) 140	a) 200% b) 202% c) 222%
		d) 125	e) 115		d) 220% e) None of these
					14. In which year the percentage



increase in production as compared to the previous year was maximum?

- a) 2011 b) 2014 c) 2016 d) 2017 e) None of these
- 15. The average production of year 2011 and 2012 was exactly equal to the average production of which of the following pairs of year? a) 2013, 2014 b) 2015, 2017 c) 2010, 2014 d) 2010, 2016 e) None of these
- 16. A group of 40 boys went for camping. They carry food for 15 days. If 10 more boys join them then for how many days the food last? a) 13 days b) 8 days d) 12 days c) 10 days e) None of these 17. Rahul invested Rs. 6000 in a business. After 4 months Aniket joined him in the business and invested Rs. 10000. If at the end of the year they received profit of Rs. 19000; then find the share of
 - Rahul's profit. a) Rs. 6000 b) Rs. 7200 c) Rs. 8100 d) Rs. 9000 e) None of the above

 $=\frac{77}{360}$ 7200 = 1540 **Solutions** 1. c; \Rightarrow Number of employees in Accounts department Total degree = 360° Degree of Accounts = 51° $=\frac{51}{360}$ 7200 = 1020 ... Required percentage $=\frac{51}{360}$ 100 = 14.17% \Rightarrow Difference= 1540-1020= 520 ... Required percentage $=\frac{520}{1020}$ 100 = 50.98% 2. a; Number of employees in 6. e; Management department The pattern is as follows: $=\frac{77}{360}$ 7200 = 1540 $\Rightarrow 5040$ \Rightarrow 720 = 5040 \div 7 3. b; $\Rightarrow 4320 = 720 \times 6$ \Rightarrow Number of employees in HR \Rightarrow 864 = 4320 ÷ 5 department $=\frac{53}{360}$ 7200 = 1060 $\Rightarrow 3456 = 864 \times 4$ \Rightarrow 1152 = 3456 \div 3 $\Rightarrow 1152 \times 2 = 2304$ \Rightarrow Number of employees in Marketing department $\therefore \Rightarrow = 2304$ $=\frac{63}{360}$ 7200 = 1260 7. b; The pattern is as follows; \Rightarrow Employees shifted from HR $\Rightarrow 164 = 13^2 - 5$ $\Rightarrow 201 = 14^2 + 5$ department $\Rightarrow 220 = 15^2 - 5$ = 15% of 1060 = 159 $\Rightarrow 261 = 16^2 + 5$: Number of employees in the $\Rightarrow 284 = 17^2 - 5$ Marketing department after shifting = 1260 + 159 = 1419 $\Rightarrow ? = 18^2 + 5 = 329$ 4. d; ∴ ? = 329 Number of employees in Sale 8. c; $\Rightarrow 14 = 2^2 + 10$ department $\Rightarrow 19 = 3^2 + 10$ $=\frac{57}{360}$ 7200 = 1140 $\Rightarrow 35 = 5^2 + 10$ $\Rightarrow 59 = 7^2 + 10$ Number of employees in Finance $\Rightarrow 131 = 11^2 + 10$ department $\Rightarrow 179 = 13^2 + 10$ $=\frac{59}{360}$ 7200 = 1180 $\Rightarrow ? = 17^2 + 10 = 299$:. Difference = 1180 - 1140 = 40∴ ? = 299 9. c; 5. d; The pattern is as follows; \Rightarrow Number of employees in $\Rightarrow 3 = 1^2 + 1 + 1$

 $\Rightarrow 5 = 2^2 + 2 - 1$ $\Rightarrow 13 = 3^2 + 3 + 1$ $\Rightarrow 19 = 4^2 + 4 - 1$ \Rightarrow 31 = 5² + 5 + 1 $\Rightarrow 41 = 6^2 + 6 - 1$ $\Rightarrow 57 = 7^2 + 7 + 1 = ?$ ∴ ? = 57 10. d; $4^3 = 64$ $5^3 = 125$ $6^3 = 216$ $7^3 = 343$ $8^3 = 512$ 11. d; Total production = 50 + 80 + 120+90 + 130 + 100 + 150 + 160 =880 \Rightarrow Average production $=\frac{880}{8}=110$ \therefore Production in years 2012, 2014, 2016 and 2017 is more than the average production 12. b; Production in 2012 = 120Production in 2013 = 90 \Rightarrow Decrease in production = 120 - 90 = 30: Percentage decline $=\frac{30}{120}$ 100 = 25% 13. d; Production in 2010 = 50Production in 2017 = 160 \Rightarrow Increase in production = 160 - 50 = 110.:. Percentage increase $=\frac{110}{50}$ 100 = 220% 15. d; 14. a; Production in 2010 = 50

 $=\frac{(80+120)}{2}=\frac{200}{2}=100$ Production in 2011 = 80 \Rightarrow Increase in production = 80 - 50 = 30.:. Percentage increase 2014 $=\frac{30}{50}$ 100 = 60% Production in 2011 = 80Production in 2012 = 1202017 Increase in production = 120 - 80 = 40Percentage increase $=\frac{40}{80}$ 100 = 50% 2014 Production in 2013 = 90Production in 2014 = 1302016 \Rightarrow Increase in production = 130 - 90 = 40 \Rightarrow Percentage increase $=\frac{40}{90}$ 100 = 44.44% Production in 2015 = 1002011 and 2012 Production in 2016 = 15016. d; \Rightarrow Increase in production We know that, = 150 - 100 = 50 \Rightarrow Percentage increase $=\frac{50}{100}$ 100 = 50% Production in 2016 = 150Production in 2017 = 16017. d; \Rightarrow Increase in production = 160 - 150 = 10 \Rightarrow Percentage increase $=\frac{10}{150}$ 100 = 6.66% \therefore Year 2011 has the maximum percent increase as compared to the year 2010 $=\frac{9}{19}$ Average production of 2011 and 2012

Average production of 2013 and $=\frac{90+130}{2}=\frac{220}{2}=110$ Average production of 2015 and $=\frac{(100+160)}{2}=\frac{260}{2}=130$ Average production of 2010 and $=\frac{(50+130)}{2}=\frac{180}{2}=90$ Average production of 2010 and $=\frac{(50+150)}{2}=\frac{200}{2}=100$ \therefore Year 2010 and 2016 have the same average production as year $M_1 \times T_1 = M_2 \times T_2$ $\Rightarrow 40 \times 15 = (40 + 10) \times T_2$ $\Rightarrow 50 \times T_2 = 600$ \Rightarrow T₂ = 12 days \therefore The food will last for 12 days Rahul's part of investment : Aniket's part of investment = Rs. 6000×12 months : Rs. 10000×8 months. .:. Rahul's part of investment: Aniket's part of investment = 72000 : 80000 = 9:10: Profit of Rahul 19000 = Rs.9000∴Rahul will receive Rs. 9000 profit.

