

 <p>NIET Greater Noida Estd. 2001 GET FUTURE READY AN AUTONOMOUS INSTITUTE</p>	<p>ENGINEERING MATHEMATICS III (AAS0301A) UNIT-V</p>	<p>SESSION: 2022-23</p>
		<p>Branch: CSE/CS/IT Sem: III</p>
<p>Assignment Given Date: 21/11/22</p>	<p>Maximum Points: 86</p>	
<p>Assignment Submission Date: 28/11/22</p>	<p>Weightage in University Exam: 30</p>	
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Note: Write solution of each question in clear handwriting.

Q. N.	Question Statement	Pts	CO	BLOOM'S KNOWLEDGE LEVEL
1	A can complete a work in 6 days while B can complete the same work in 12 days. If they work together and complete it, what is the portion of the work done by A?	6	5	K ₄ , K ₅
2	Time taken by A to finish a piece of work is twice the time taken B and thrice the time taken by C. If all three of them work together, it takes them 2 days to complete the entire work. How much work was done by B alone?	6	5	K ₅
3	Two pipes A and B can fill a tank in 12 minutes and 15 minutes respectively while a third pipe C can empty the full tank in 20 minutes. All the three pipes are opened in the beginning. However, pipe C is closed 6 minutes before the tank is filled. In what time will the tank be full?	6	5	K ₅
4	A tap can completely fill a water tank in 8 hours. The water tank has a hole in it through which the water leaks out. The leakage will cause the full water tank to get empty in 12 hours. How much time will it take for the tap to fill the tank completely with the hole?	2	5	K ₃ , K ₅
5	A car travels the first one third of a certain distance with a speed of 10 km/hr, the next one third distance with a speed of 20 km/hr and the last one third distance with a speed of 60 km/hr. Find the average speed of the car for the whole journey?	6	5	K ₃ , K ₅
6	Two trains start at the same time from A and B and proceed toward each other at the speed of 75 km/hr and 50 km/hr respectively. When both meet at a point in between, one train was found to have travelled 175 km more than the other. Find the distance between A and B?	6	5	K ₅
7	Two trains 240 metres and 270 metres in length are running towards each other on parallel lines, one at the rate of 60 km/hr and another at	6	5	K ₅

	48 km/hr. How much time will they take to cross each other?			
8	A man can row 40 km upstream and 55 km downstream in 13 hours. Also, he can row 30 km upstream and 44 km downstream in 10 hours. Find the speed of the man in still water and the speed of the current?	6	5	K ₄ , K ₅
9	The speed of the boat in still water is 5 times that of the current, it takes 1.1 hours to row to point B from point A downstream. The distance between point A and point B is 13.2km. How much distance (in km) will it cover in 312 minutes upstream?	6	5	K ₅
10	Six friends are sitting in a circle and are facing the centre of the circle. Deepa is between Prakash and Pankaj. Priti is between Mukesh and Lalit. Prakash and Mukesh are opposite to each other. (a) Who is sitting right to Prakash? (b) Who is just right to Pankaj? (c) Who are the neighbour's of Mukesh? (d) Who is sitting opposite to Priti?	10	5	K ₅
11	What was the day of the week on 17th June, 1998?	6	5	K ₅
12	A clock is set right at 5 a.m. The clock loses 16 minutes in 24 hours. What will be the true time when the clock indicates 10 p.m. on 4th day?	6	5	K ₅
13	A clock is set right at 8 a.m. The clock gains 10 minutes in 24 hours. What will be the true time when the clock indicates 1 p.m. on the following day?	6	5	K ₅
14	(i) How many rotations will the hour hand of a clock complete in 72 hours? (ii) Through what angle does the minute hand of a clock turn in 5 minutes?	2 2	5	K ₅

Answer:

- 1. $\frac{2}{3}$**
- 2. 6 Days**
- 3. 7 Minutes**
- 4. 24 hrs**
- 5. 18 km/hr**
- 6. 875 km**
- 7. 17 sec**
- 8. 8 km/hr, 3 km/hr**
- 9. 41.6 km**
- 10. Lalit, Deepa, Priti & Pankaj, Deepa**
- 11. Wednesday**
- 12. 11 pm**
- 13. 48 Min past 12**
- 14. $6, 30^\circ$**