[4]

Q.5	i.	Explain function of flywheel in brief.	4
	ii.	Sketch neatly, showing principle dimensions and necessary view, a	6
		disk crank having 100 mm radius.	
OR	iii.	Differentiate between forged crankshaft and built-up crank.	6
Q.6		Attempt any two:	
	i.	Write procedure for assembly of cotter joint using CAD software.	5
	ii.	Write procedure for assembly of clutch component using CAD software.	5
	iii.	Write procedure for assembly of knuckle joint using CAD software.	5

Total No. of Questions: 6

Total No. of Printed Pages:4



Enrollment No.....

Faculty of Engineering End Sem (Odd) Examination Dec-2018

AU3CO12 Automotive Component Drawing

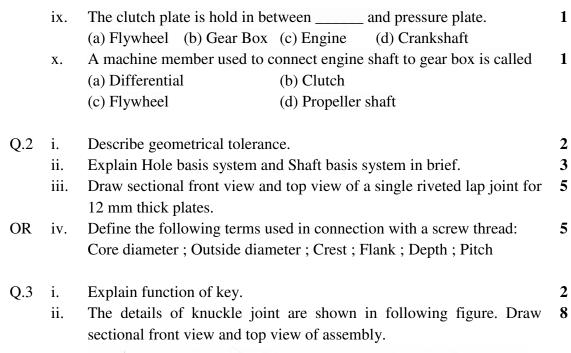
Programme: B.Tech. Branch/Specialisation: AU

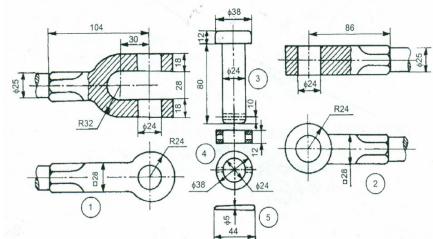
Duration: 3 Hrs. Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

.1 (N	ICQs)	snould be written in full inste	ead of only a, b, c or d.	
Q.1	i.	This is the term for the range of tightness or looseness resulting from the allowances and tolerances in mating parts:		1
		(a) Limits	(b) Fit	
		(c) Specifications	(d) Allowance	
	ii.	This is the measured size of a	a finished part:	1
		(a) Actual size	(b) Dimensioned size	
		(c) Production size	(d) Basic size	
	iii.	A cotter is used to]
		(a) Rigidly connect rods	(b) Transmit motion	
		(c) Prevent rotation of shaft	(d) All of these	
	iv.	A pulley system consist of		
		(a) Rope (b) Chain	(c) Belt (d) All of these	
	v.	The top piston rings nearer to	the piston crown is known as	
		(a) Compression ring	(b) Oil ring	
		(c) Groove ring	(d) Leading ring	
	vi. What is the material of the connecting rod		onnecting rod	-
		(a) Mild steel	(b) Forged steel	
		(c) Tool steel	(d) Cast iron	
	vii.	In four stroke engine there is	s one power stroke in of crankshaft	-
		rotation		
		(a) 180° (b) 360°	(c) 540° (d) 720°	
	viii.	In four stroke engine camshafts operated with the help of]
		(a) Crankshaft	(b) Rocker arm	
		(c) Either (a) or (b)	Either (a) or (b) (d) None of these	

P.T.O.

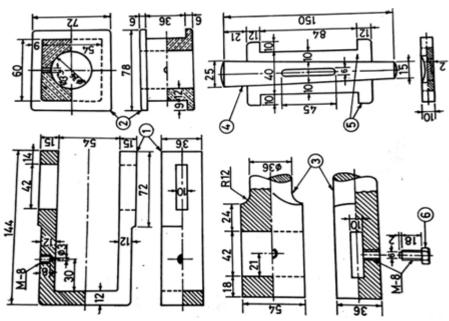




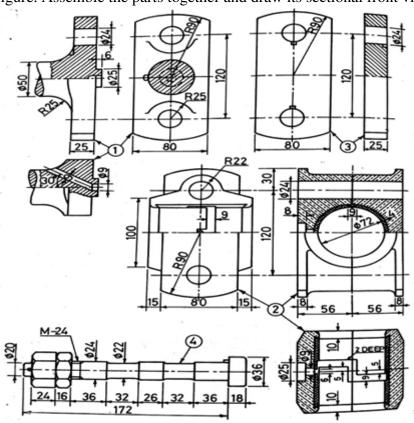
8

OR iii. Differentiate between: (a) Butt-muff coupling and half-lap muff coupling, (b) Rigid coupling and flexible coupling, Explain function of piston rings. Q.4 i. Draw half-sectional front view and half sectional top view of the strap 7 type connecting rod end, the details of which are shown in following

figure.



Details of a box-type connecting rod ends are shown in following 7 figure. Assemble the parts together and draw its sectional front view.



P.T.O.

Marking Scheme

AU3CO12 Automotive Component Drawing

Q.1	i.	This is the term for the range of tightness or looseness resulting from		
		the allowances and tolerances in mating parts: (b) Fit		
	ii.	This is the measured size of a finished part:	1	
		(a) Actual size		
	iii.	A cotter is used to	1	
		(a) Rigidly connect rods		
	iv.	A pulley system consist of	1	
		(d) All of these		
	v.	The top piston rings nearer to the piston crown is known as	1	
		(a) Compression ring		
	vi.	What is the material of the connecting rod	1	
		(b) Forged steel		
	vii.	In four stroke engine there is one power stroke in of crankshaft	1	
		rotation		
		(d) 720°		
	viii. In four stroke engine camshafts operated with the help of		1	
		(b) Rocker arm		
	ix.	The clutch plate is hold in between and pressure plate.	1	
		(a) Flywheel		
	х.	A machine member used to connect engine shaft to gear box is called (b) Clutch		
Q.2	i.	Geometrical tolerance.	2	
Q.2	ii.	Hole basis system and Shaft basis system	3	
	11.	Explanation: 2 marks	3	
		Diagram: 1 mark		
	iii.	Draw sectional front view and top view of a single riveted lap joint for	5	
	111.	12 mm thick plates.	J	
		Calculation: 1 mark		
		Front View 2 marks		
		Top view 2 marks		
OR	iv.	Define the following terms used in connection with a screw thread:	5	
J14	Core diameter; Outside diameter; Crest; Flank; Depth; Pitch			
		1 mark for each definition (1 mark *5)		
Q.3	i.	Function of key.	2	
_	ii.	Draw sectional front view and top view of assembly.		

		Sectional Front View	5 marks	
		Top View	3 marks	
OR	iii.	Differentiate between:		8
		(a) Butt-muff coupling and half-lap muff coupling,	4 marks	
		(b) Rigid coupling and flexible coupling,	4 marks	
Q.4	i.	Function of piston rings.		3
	ii.	Half Sectional front view	4 marks	7
		Half Sectional top view	3 marks	
OR	iii.	Sectional front view.		7
Q.5	i.	Function of flywheel in brief.		4
	ii.	Drawing	5 marks	6
		Dimensioning	1 mark	
OR	iii. Differentiate between forged crankshaft and built-up crank.			
		Any six differences 1 mark for each	(1 mark *6)	
Q.6		Attempt any two:		
	i.	Procedure for assembly of cotter joint using CAD software.		5
	ii.	Procedure for assembly of clutch component using CAD software.		
	iii.	Procedure for assembly of knuckle joint using CAD software.		
