

[4]

- Q.5 i. Explain function of flywheel in brief. **4**  
ii. Sketch neatly, showing principle dimensions and necessary view, a disk crank having 100 mm radius. **6**  
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**

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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.

- 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 finished part: **1**  
(a) Actual size (b) Dimensioned size  
(c) Production size (d) Basic size
- iii. A cotter is used to **1**  
(a) Rigidly connect rods (b) Transmit motion  
(c) Prevent rotation of shaft (d) All of these
- iv. A pulley system consist of **1**  
(a) Rope (b) Chain (c) Belt (d) All of these
- v. The top piston rings nearer to the piston crown is known as..... **1**  
(a) Compression ring (b) Oil ring  
(c) Groove ring (d) Leading ring
- vi. What is the material of the connecting rod **1**  
(a) Mild steel (b) Forged steel  
(c) Tool steel (d) Cast iron
- vii. In four stroke engine there is one power stroke in \_\_\_\_\_ of crankshaft rotation **1**  
(a) 180° (b) 360° (c) 540° (d) 720°
- viii. In four stroke engine camshafts operated with the help of **1**  
(a) Crankshaft (b) Rocker arm  
(c) Either (a) or (b) (d) None of these

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	1
	ii.	This is the measured size of a finished part: (a) Actual size	1
	iii.	A cotter is used to (a) Rigidly connect rods	1
	iv.	A pulley system consist of (d) All of these	1
	v.	The top piston rings nearer to the piston crown is known as..... (a) Compression ring	1
	vi.	What is the material of the connecting rod (b) Forged steel	1
	vii.	In four stroke engine there is one power stroke in _____ of crankshaft rotation (d) 720°	1
	viii.	In four stroke engine camshafts operated with the help of (b) Rocker arm	1
	ix.	The clutch plate is hold in between _____ and pressure plate. (a) Flywheel	1
	x.	A machine member used to connect engine shaft to gear box is called (b) Clutch	1
Q.2	i.	Geometrical tolerance.	2
	ii.	Hole basis system and Shaft basis system Explanation: 2 marks Diagram: 1 mark	3
	iii.	Draw sectional front view and top view of a single riveted lap joint for 12 mm thick plates. Calculation: 1 mark Front View 2 marks Top view 2 marks	5
OR	iv.	Define the following terms used in connection with a screw thread: Core diameter ; Outside diameter ; Crest ; Flank ; Depth ; Pitch 1 mark for each definition (1 mark *5)	5
Q.3	i.	Function of key.	2
	ii.	Draw sectional front view and top view of assembly.	8

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

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