KADI SARVA VISHWAVIDHYALAYA
B.E. MECHANICAL/AUTOMOBILE Semester–III April 2015

Subject: Machining and Casting Process **Date: 15/04/2015**
Subject Code: ME/AE-303 **Time: 10:30 am to 01:30 pm**
Total Marks: 70

Instructions:
1. Answer each section in separate Answer sheet.
2. Use of Scientific calculator is permitted.
3. All questions are **Compulsory**.
4. Indicate **clearly**, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of **rough work**.

SECTION-I

Que:1	**(A)**	Explain the principle of sand casting and its advantages.	**[5]**
	(B)	Write short note on pattern materials.	**[5]**
	(C)	What do you know about centrifugal casting?	**[5]**
		OR	
	(C)	Classify machine tools in details.	**[5]**
Que:2	**(A)**	What do you know about Cope and Core?	**[5]**
	(B)	Explain different types of chucks used in lathe machine.	**[5]**
		OR	
	(A)	What do you know about Turret lathe?	**[5]**
	(B)	Explain parts of Engine lathe.	**[5]**
Que:3	**(A)**	Write short note on Facing and Knurling.	**[5]**
	(B)	Write short note on Drilling machine.	**[5]**
		OR	
	(A)	A hole of 25 mm diameter and 62.5 mm depth is to be drilled. The suggested feed is 1.25 mm/rev. and the cutting speed is 60 m/min. Assume the clearance height is 5 mm. Determine: feed speed, spindle rpm, cutting time and Material removal rate.	**[5]**
	(B)	Explain Horizontal boring machine.	**[5]**

SECTION-II

Que:4	**(A)**	Classification of Boring machine.	**[5]**
	(B)	What do you know about Milling machine?	**[5]**
	(C)	Explain different types of milling cutters.	**[5]**
		OR	
	(C)	What do you know about planer machine?	**[5]**
Que:5	**(A)**	Write short note on shaper machine.	**[5]**
	(B)	Explain working of hydraulic shaper machine.	**[5]**
		OR	
	(A)	What do you know about sawing machine.	**[5]**
	(B)	Describe advantages and disadvantages of Broaching machine.	**[5]**
Que:6	**(A)**	Explain plain milling operation.	**[5]**
	(B)	Write short note on grinding machine.	**[5]**
		OR	
	(A)	Draw neat sketch of radial drilling machine and it's working.	**[5]**
	(B)	Explain manufacturing of grinding wheel.	**[5]**

Best of luck

KADI SARVA VISHWAVIDHYALAYA
B.E MECHANICAL Semester–III

Subject: Machining and Casting Process **Date: 26/11/2013**
Subject Code: ME-303 **Time: 10:00 am to 1:00 pm**
Total Marks: 70

Instructions:
1. Answer each section in separate Answer sheet.
2. Use of Scientific calculator is permitted.
3. All questions are **Compulsory**.
4. Indicate **clearly**, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of **rough work**.

SECTION-I

Que:1	**(A)**	Define the Term Pattern. Explain various types of pattern materials.	[5]
	(B)	Classification of Manufacturing process.	[5]
	(C)	Draw simple sketch of Engine lathe. List main parts of it.	[5]
		OR	
	(C)	Explain centrifugal casting process. What is the main difference between Semi-centrifugal and Centrifugal casting process.	[5]
Que:2	**(A)**	What is Precision investment casting? Explain its advantages and limitations.	[5]
	(B)	Write short note on different type of chucks used in a lathe.	[5]
		OR	
	(A)	Explain working of vertical turret lathe.	[5]
	(B)	A hollow workpiece of 60 mm outside diameter and 150 mm length is held on a mandrel between centres and turned over in 4 passes. If the approach length = 20 mm, over travel = 12 mm, average feed = 0.8 mm/rev., cutting speed = 30m/min, calculate the machining time.	[5]
Que:3	**(A)**	Draw neat sketch of radial drilling machine and explain its working.	[5]
	(B)	Explain different factors affecting the tool life.	[5]
		OR	
	(A)	Enumerate various operations carried out on drilling machine. Explain any two with neat sketch.	[5]
	(B)	A hole of 25 mm diameter and 62.5 mm depth is to be drilled. The suggested feed is 1.25 mm/rev. and the cutting speed is 60 m/min. Assume the clearance height is 5 mm. Determine: Feed speed, Spindle rpm, cutting time and material removal rate.	[5]

SECTION-II

Que:4	**(A)**	Explain with neat sketch working of Horizontal boring machine.	[5]
	(B)	Write classification of milling machine. Draw neat sketch of column and knee type milling machine.	[5]
	(C)	Explain different types of milling cutters.	[5]
		OR	
	(C)	What is Jig boring machine? Describe its construction and working in details.	[5]
Que:5	**(A)**	Explain principal parts of standard planner with neat sketch.	[5]
	(B)	Explain various types of milling operations, neat sketch any two.	[5]
		OR	

(A) Classify broaching machine. Describe various advantages of broaching. [5]

(B) Classify sawing machine. Describe various applications of sawing machine. [5]

Que:6 (A) Explain working of universal and plain center type cylindrical grinding machines. [5]

(B) Difference between shaper and planer machine. [5]

OR

(A) What are the advantages and disadvantages of the different bonds used in grinding wheels? [5]

(B) Make neat sketch of a slotter machine, Explain its working with applications. [5]

Best of luck

KADI SARVA VISHWAVIDHYALAYA
B.E. MECHANICAL Semester–III

Subject: Machining and Casting Process **Date: 25/04/2014**
Subject Code: ME303 **Time: 10:30 am to 01:30 pm**
Total Marks: 70

Instructions:
1. Answer each section in separate Answer sheet.
2. Use of Scientific calculator is permitted.
3. All questions are **Compulsory**.
4. Indicate **clearly**, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of **rough work**.

SECTION-I

Que:1	**(A)**	Define the term pattern. List the various pattern materials.	[5]
	(B)	Difference between Hot chamber and Cold chamber Die casting.	[5]
	(C)	Define pattern allowances. List the Various pattern allowances.	[5]
		OR	
	(C)	Classify Machine Tools in details.	[5]
Que:2	**(A)**	Write short note on different type of chucks used in a lathe.	[5]
	(B)	Draw simple sketch of Engine lathe. List main parts of it.	[5]
		OR	
	(A)	Difference between semi-centrifugal and centrifuging casting process.	[5]
	(B)	Explain different factors affecting the tool life.	[5]
Que:3	**(A)**	Explain radial drilling machine and its working.	[5]
	(B)	Explain following lathe operation with sketch (1) Facing (2) Grooving	[5]
		OR	
	(A)	Define cutting speed, feed and machining time for drilling.	[5]
	(B)	What are the difference between Engine lathe and Turret lathe?	[5]

SECTION-II

Que:4	**(A)**	Classify boring machine. Explain horizontal boring machine.	[5]
	(B)	What do you mean by precision boring machine?	[5]
	(C)	What Do you know about broaching machine?	[5]
		OR	
	(C)	What do you know about sawing machine?	[5]
Que:5	**(A)**	Write short note on up milling and down milling process.	[5]
	(B)	List of milling operations and explain any one.	[5]
		OR	
	(A)	What do you know about Universal milling machine.	[5]
	(B)	Explain different types of milling cutters.	[5]
Que:6	**(A)**	Different between Shaper and Planer machine.	[5]
	(B)	Explain the Working of hydraulic shaper machine.	[5]
		OR	
	(A)	Write short note on universal grinder.	[5]
	(B)	Explain Trueing and Dressing of grinding wheel.	[5]

Best of luck

KADI SARVA VISHWAVIDHYALAYA
B.E. MECHANICAL/AUTOMOBILE Semester–III

Subject: Machining and Casting Process **Date: 15/11/2014**
Subject Code: ME-303 **Time: 10:30 am to 01:30 pm**
Total Marks: 70

Instructions:
1. Answer each section in separate Answer sheet.
2. Use of Scientific calculator is permitted.
3. All questions are **Compulsory.**
4. Indicate **clearly,** the options you attempt along with its respective question number.
5. Use the last page of main supplementary of **rough work.**

SECTION-I

Que:1	**(A)**	Explain precision investment casting starting its advantages, limitation and application.	[5]
	(B)	Difference between Hot chamber and Cold chamber Die casting.	[5]
	(C)	Classification of Manufacturing process.	[5]
		OR	
	(C)	Sketch a cupola furnace describe construction and working.	[5]
Que:2	**(A)**	Explain different type of chucks used in a lathe.	[5]
	(B)	What are the difference between Engine lathe and Turret lathe?	[5]
		OR	
	(A)	A cutting tool cutting at 22 m/min, gave a life of 60 minutes between regrinds when operating on roughening cuts with mild steel. What will be its probable life when engaged on light finishing cuts? Take n = 1/8 and 1/10 for roughening and finishing cuts respectively in Taylor's tool life equation.	[5]
	(B)	Explain following lathe operations with sketch (i) Facing (ii) Grooving (iii) Knurling	[5]
Que:3	**(A)**	Explain different types of reamers used in drilling.	[5]
	(B)	Draw simple sketch of Engine lathe. List main parts of it.	[5]
		OR	
	(A)	Enumerate various operations carried out on drilling machine. Explain any two with neat sketch.	[5]
	(B)	Explain following milling operations. (i) Plain milling operation (ii) Straddle milling operation.	[5]

SECTION-II

Que:4	**(A)**	Classify boring machine. Explain horizontal boring machine.	[5]
	(B)	Explain different types of milling cutters.	[5]
	(C)	Write short note on up milling and down milling process.	[5]
		OR	
	(C)	Differentiate between open side planner and Standard double housing planner	[5]
Que:5	**(A)**	Different between Shaper and Planer machine.	[5]
	(B)	Explain working of reciprocating and circular sawing machine.	[5]
		OR	
	(A)	Explain principal parts of standard planner with neat sketch.	[5]
	(B)	Explain Trueing and Dressing of grinding wheel.	[5]
Que:6	**(A)**	What do you know about slotter machine?	[5]
	(B)	Describe various advantages and limitations of broaching machine.	[5]
		OR	
	(A)	State classification of grinding machine. Explain working of reciprocating and rotary table surface grinding machines.	[5]
	(B)	What do you mean by precision boring machine? Explain their characteristics features.	[5]

BEST OF LUCK

KADI SARVA VISHWAVIDHYALAYA
B.E. MECHANICAL/AUTOMOBILE Semester–III Nov/Dec-2015

Subject: Machining and Casting Process
Subject Code: ME/AE-303

Date: 03/12/2015
Time: 10:30 am to 01:30 pm
Total Marks: 70

Instructions:
1. Answer each section in separate Answer sheet.
2. Use of Scientific calculator is permitted.
3. All questions are **Compulsory**.
4. Indicate **clearly**, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of **rough work.**

SECTION-I

Que:1	(A)	Explain precision investment casting starting its advantages, limitation and application.	[5]
	(B)	Define pattern allowance, list various pattern allowances. State purpose of each allowances.	[5]
	(C)	Classification of Manufacturing process in details.	[5]
		OR	
	(C)	Differentiate between Hot chamber and Cold chamber die casting.	[5]
Que:2	(A)	Write short note on different type of chucks used in a lathe.	[5]
	(B)	Sketch a lathe machine and explain its constructional details.	[5]
		OR	
	(A)	What are the difference between Engine lathe and Turret lathe	[5]
	(B)	Calculate the amount of off-set of tail stock for taper turning for (a) 30 mm dia. to 20 mm dia. On a job 200 mm long over its entire length (b) 30 mm dia. to 20 mm dia. Over a length of 200 mm from one end on a job 400 mm long.	[5]
Que:3	(A)	Enumerate various operations carried out on drilling machine. Explain any two with neat sketch.	[5]
	(B)	Explain different types of reamers used in drilling.	[5]
		OR	
	(A)	Draw a neat schematic diagram of upright drill machine. Describe deep hole drilling.	[5]
	(B)	Calculate the spindle speed in rpm for a high speed drill of 12 mm diameter with cutting speed of 40 m/min.	[5]

SECTION-II

Que:4	(A)	Explain working of Jig (precision) boring machine with neat sketch.	[5]
	(B)	Explain various operations carried out on boring machine with neat sketch.	[5]
	(C)	Explain universal milling machine with neat sketch	[5]
		OR	
	(C)	Explain with neat sketch up milling and down milling process.	[5]
Que:5	(A)	Differentiate between open side planner and Standard double housing planner.	[5]
	(B)	What do you know about Slotter machine?	[5]
		OR	
	(A)	State comparison of shaper and planer.	[5]
	(B)	Describe working of reciprocating and circular sawing machine.	[5]
Que:6	(A)	Classify broaching machine. Describe various advantages and limitations of broaching machine.	[5]
	(B)	Explain working of reciprocating and rotary table surface grinding machines.	[5]
		OR	
	(A)	Explain different types of saw bands in sawing machine.	[5]
	(B)	Explain Trueing and Dressing of grinding wheel.	[5]