

SAVITRIBAI PHULE PUNE UNIVERSITY

Seat No F150700054
Sticker No 8537897
Subject BME
Centre 4070

102013-BME



Semester :2 70115

Examination	Oct / Nov 2018
Day & Date	Monday 17/12/2018
Subject	Basic mechanical Engineering
Paper No.	64587-103 Sec
Medium of Answer	English

Seat No. : In figure & In words

F 1 5 0 7 0 0 0 5 4

One, five, zero, seven, zero

zero, zero, five, four

Signature of Candidate

Yashwanth

Signature of Supervisor

W

Instruction to Candidate

1. Candidate has to confirm seat number, subject and centre number printed on Bar code and Write it on attendance sheet.

विद्यार्थ्याने प्रथम बार कोडवरील आसन क्रमांक, विषय व केंद्र क्रमांक तपासून योग्य असल्याची खात्री करावी आणि उपस्थिती पत्रकावर नोंदवावी.

2. Paste Bar Code in prescribed space.

उत्तरपत्रिकेवरील विहित जागेतच बार कोड लावावा.

3. Do not write anything on bar code sticker, otherwise it will be treated as unfair means.

बार कोड स्टिकरवर काहीही लिहू नये, अन्यथा परीक्षा गैरप्रकार समजला जाईल.

Supplements attached		
Main Answer Book	No. of Supplements	Total
1	+ 0	= 1

Specific remarks of Centre conductor regarding malpractice (in Red ink)

Total	Marks in Figure	Marks in Words	Sign
Examiner	20	Twenty	<i>W</i>
Moderator	20	<i>W</i>	<i>W</i>

Q. No.	Examiner		Moderator	
1	0	2	0	2
2	—	—	—	—
3	0	9	0	9
4	—	—	—	—
5	0	5	0	5
6	—	—	—	—
7	0	4	0	4
8	—	—	—	—
9	—	—	—	—
10	—	—	—	—
11	—	—	—	—
12	—	—	—	—
Total in Figure	0	20	0	20
Total in Words	Twenty		<i>W</i>	
Signature	<i>W</i>		<i>K</i>	

१. विद्यार्थ्याने उत्तरपत्रिकेच्या मुखपृष्ठावर तसेच पुरवणी उत्तरपत्रिकेवर आणि उपस्थिती पत्रकावर विहित जागेत आसन क्रमांक अंकित व अक्षरात बिनचूक लिहून स्वाक्षरी करावी.
२. उत्तरपत्रिकेवर फक्त निळ्या अथवा काळ्या शाईचा उपयोग करावा, अन्यथा उत्तरपत्रिकेचे मूल्यमापन केले जाणार नाही.
३. उत्तरपत्रिकेच्या पृष्ठक्रमांक ३ पासून लिहिण्यास प्रारंभ करावा.
४. संबंधित प्रश्नाचे अथवा उपप्रश्नाचे उत्तर जेथून सुरु होते तेथेच समासात प्रश्न क्रमांक, उपप्रश्न क्रमांक अचूक व स्पष्ट लिहावा, यासाठी वेगळ्या शाईचा उपयोग करू नये.
५. प्रत्येक पानाच्या दोन्ही बाजूस लिहावे, उत्तरपत्रिका किंवा पुरवणी उत्तरपत्रिकेचे कोणतेही पान फाडू नये. फाडल्यास परीक्षा गैरप्रकार समजून पुढील कार्यवाही करण्यात येईल.
६. पेपर संपण्यापूर्वी १० मिनिटे अगोदर इशारा घंटा होईल, त्यानंतर विद्यार्थ्याने उत्तरपत्रिका व पुरवणी उत्तरपत्रिकेवर होलोक्राफ्ट स्टिकर विहित जागेवरच लावावा.

Candidate shall fill all information about seat number, paper etc. in prescribed space and sign on the answer book and attendance sheet.

उत्तरपत्रिकेवर फक्त निळ्या अथवा काळ्या शाईचा उपयोग करावा अन्यथा उत्तरपत्रिका मूल्यमापन केले जाणार नाही

Candidate shall start writing answers from page no.3 of the answer book.

Candidate shall mention question number, sub question number correctly at the beginning of the same and shall not use ink other than blue or black.

Candidate shall write on both sides of pages. Shall not tear of any page, it will be treated as unfair means.

Warning bell will be given before 10 minutes of the concluding time. Candidate shall paste Hollocraft Sticker at appropriate space on the answer book and supplements.

Examiner and Moderator has to write marks on all given appropriate places only. Examiner should give assessment tick (✓) or (x) in the margin.

Q. No.	Examiner	Moderator	Verification	Revaluation
1	02	02		
2	—			
3	4+5=9	09		
4	—			
5	5	05		
6	—			
7	4	04		
8				
9				
10				
11				
12				
Total	20	20		



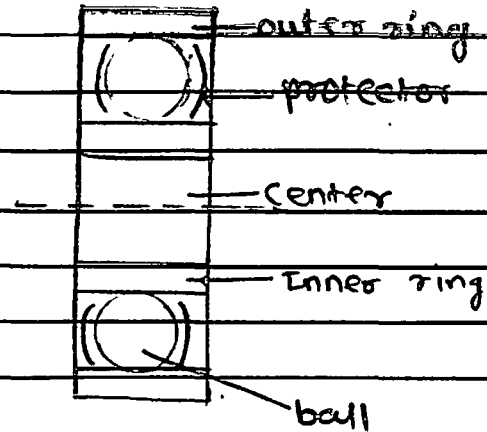
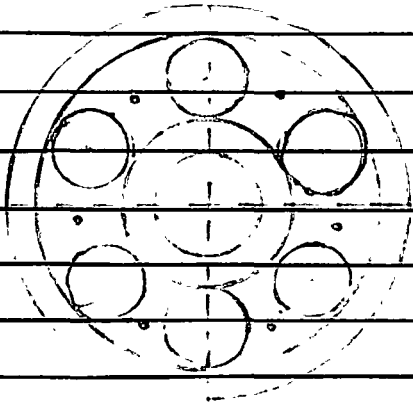
	Q.No.						TOTAL
E							
M							



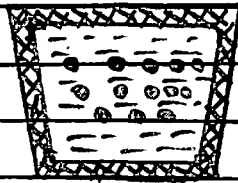
प्र. क्र / Q.No.

Q.1

→ a) i]



ii]



02

→ b) i] Cost of material.

material cost depend on the
required of material.
manufacture -
manuf.

00

4



SPPU-4

	Q.No.							TOTAL
E								
M								



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	Q.No.						TOTAL
E							
M							



5

SPPU-5

प्र. क्र /Q.No.



	Q.No.						TOTAL
E							
M							



प्र. क्र / Q.No.

Q.3

→ a)

hate working process

Cold working process

1) hate working process is material of the punch easily

1) Cold working process of material is punch is high

2) It is easy casting

2) It is high pressure casting

3) It is efficiency is low

3) It is efficiency high.

4) It is density is high

4) It is density low

5) It is material is heated

5) It is material is not heated.

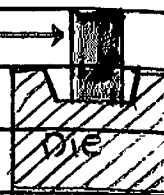
6) material manufacturing short time

6) It material manufacturing more time.

It is



material



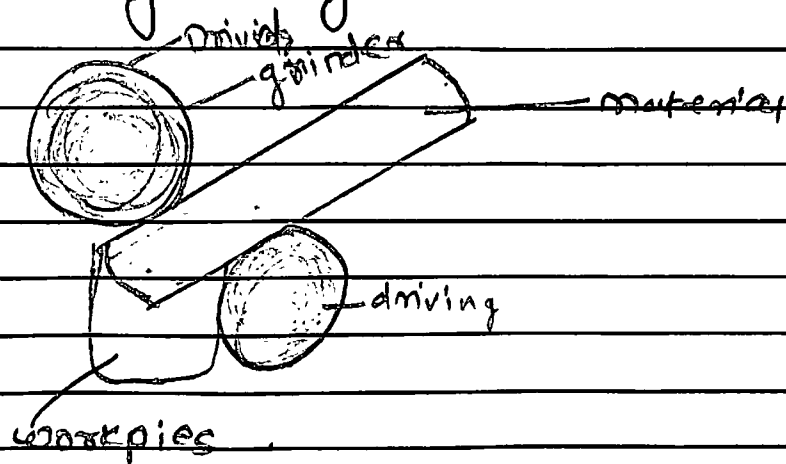
material



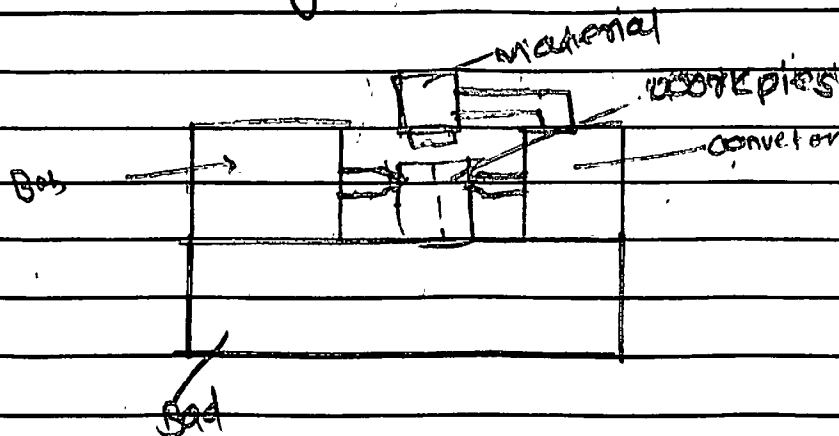
Casting mold



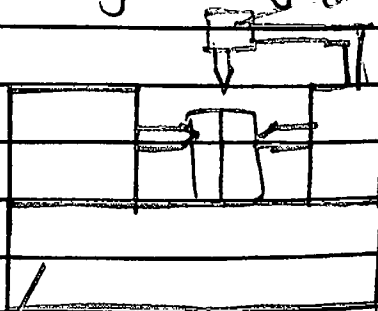
→ b) i) cylindrical grinding



2] surface grinding



1) Centre less grinding.



05

Red

8



SPPU-8

	Q.No.							TOTAL
E								
M								



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प्र. क्र /Q.No.

Blank lined area for writing answers, crossed out with a large diagonal line.



	Q.No.						TOTAL
E							
M							



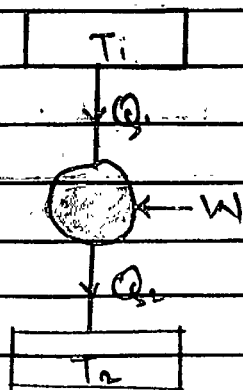
प्र. क्र / Q.No.

Q5

→ a) i) ~~Explain~~ causing second law.
The cause of second law of thermodynamics is

ii) Kelvin statement.

In this statement of the thermodynamics of the second law, The Kelvin Kelvin Statement is state that the ~~The~~ a charge is heat engine ~~Q₁ KW~~ and heat pump T_1 and the work heat is W & heat rejected engine Q_2 and heat rejected pump is zero.



02



	Q.No.								
E									TOTAL
M									



प्र. क्र / Q.No.

→ b) atmospheric pressure

The pressure exert in atmosphere is called as atmospheric pressure unit is (Pa)

gauge pressure - The pressure exert is gauge is called as gauge pressure. unit is ~~kg/cm²~~ / pascals.

absolute pressure - The pressure absolutely exerted. ~~It is called~~ as absolute pressure

→ c) Given $\eta = 30\% = 0.3$

$$Q_2 = 70 \text{ kW} = 70 \times 10^3 \text{ W}$$

$$\eta = \frac{Q_1}{Q_2}$$

$$Q_1 = \frac{\eta}{Q_2}$$

$$= 1 - \frac{3000}{70 \times 10^3}$$

$$Q_1 = 2.1 \text{ kW}$$



	Q.No.						TOTAL
E							
M							



11

SPPU-11

Shri Chhatrapati Shahu Maharaj Sanstha for Education

प्र. क्र / Q.No.

$$\begin{aligned} W &= Q_1 - Q_2 \\ 2.1 &= 70 \\ &= 67.9 \text{ kW} \end{aligned}$$

12



SPPU-12

	Q.No.							TOTAL
E								
M								



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प्र. क्र /Q.No.



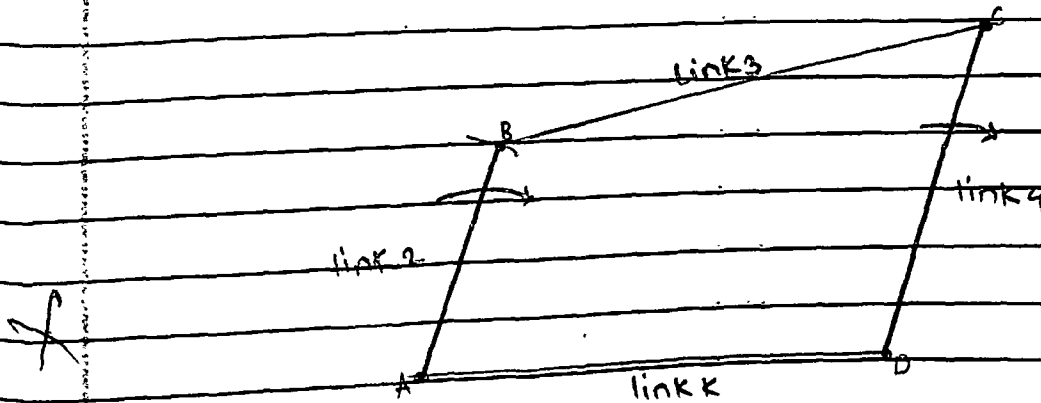
	Q.No.						TOTAL
E							
M							



Q. No.

Q.7

→ a) Four stroke cycle



Four stroke cycle present in linking supports (A, B, C, D). In the cycle any one link is fix and other three links move in motion.

In the four stroke cycle link 1 (A, D) is fix and other links 2, link 3 & link 4 are in motion.

In this four stroke cycle forward & reverse action are performed.

In this cycle repeated his motion move in a self link.

ignition ~~is~~

C.I Engine

X ignition used in engine

C.I engine help to the working of engine.

14



SPPU-14

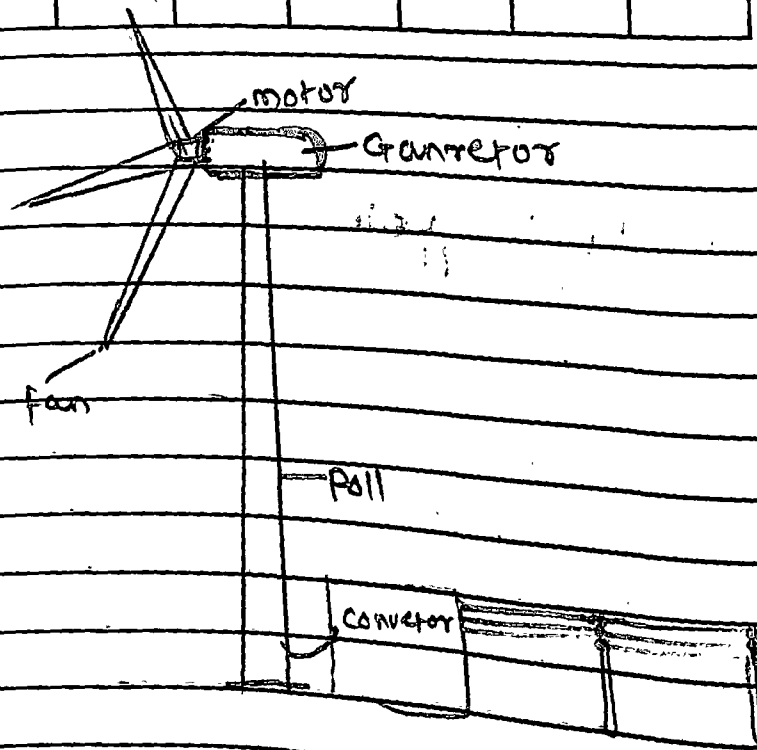
	Q.No.						TOTAL
E							
M							



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Q. No. / Q.No.

→ a)



wind power plant. It is most
 generate the electricity it is
 high cost. It is working
 in air. Its place in wind
 air ventilation. Its main
 maintenance is high. It is
 the his made high of the
 ground flowers.
 generate the electricity
 in generator, & electricity
 and flow to the converting
 hospital, houses, industries,
 places can be flow. Or two many

04



	Q.No.						TOTAL
E							
M							



15

प्र. क्र /Q.No.

16



SPPU-16

	Q.No.							TOTAL
E								
M								



Savitribai Phule Pune University

प्र. क्र /Q.No.

