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INDIAN TECHNICAL EDUCATION SOCIETY
SESSIONAL EXAMINATION
APRIL / MAY - 2011
AS PER NEW SYLLABUS

Date : 05/05/2011 Time : 2.30PM TO 6.30PM
Marks : 100

MECHANICAL DRAUGHTSMAN - II
(MD – II / DMES - III / ADMES – III / DPDD – I / DCNC - III)

Note : 1. Question No. 1 is compulsory.
2. Solve any THREE questions from the remaining Q. No. 2 to Q. No. 6.
3. Figures to the right indicate full marks.
4. Assume suitable data.

Q. 1 A) **Solve any four out of six.** (28)

1. Construct an ELLIPSE with CONCENTRIC method take major axis 130 mm & minor axis 90 mm
2. Construct a Diagonal scale, R.F. = 1/32 showing yards Feet and inches up to 4 yards on scale showing reading 2 yards 4 feet 7 inches.
3. Draw the following Single stroke vertical lettering, use proper proportion & scale I T E S
4. Draw an involutes of a square 35 mm side.
5. Construct a regular pentagon & heptagon given Length of side as 55 mm by using general method.
6. Draw a neat sketch of set square & T square.

Q. 2 **Solve any two from three.** (24)

1. A line AB 90mm long is inclined at 45^0 to the HP and its top view makes an angle of 60^0 with VP. The end of A is the HP and 12mm in front of VP. Draw its front view and final its true inclination with the VP.
2. A regular Pentagon of 25mm side has one side on the ground. Its plane is inclined at 45^0 to the HP and perpendicular to the VP, draw its projection.
3. A thin $30^0 - 60^0$ sets square has its longest edge in the VP and inclined at 30^0 to the HP. Its surface makes an angle of 45^0 with the VP. Draw its projection.

Q. 3 Draw an Orthographic projection in Fig. No.1 by using first Angle method. (24)

Q. 4 **Draw Free hand sketches. (Any Four)** (24)

1. Double strap double riveted butt joint.
2. Eye foundation bolt.
3. Metric V thread
4. Ellipsoid rivet
5. Dome nut
6. Woodruffkey

Q. 5 Draw an Isometric from given two views in Fig. 2 by inserting Dimensions. (24)

Q. 6 Fig. 3 gives the part details. Assemble them properly and draw two views. (24)

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INDIAN TECHNICAL EDUCATION SOCIETY
SESSIONAL EXAMINATION
FEB. - 2019

17/02/2019 | Time:- 2:00 PM To 6:00 PM
Marks: 100

(MD-II / DMES-III)

:-1. Q.1 is compulsory.
2. Solve any three questions from Q.2 to Q.6

a) Draw different types of lines. (06)

b) Construct a regular hexagon of 40 mm side and draw in it six equal Circles, each touching one side of hexagon and two other circles. (08)

c) Draw to the scale (06)
1) A line having length 1.5 m scale 1:5 scale 1:5
2) A circle of ø 2mm scale 10:1
3) A circle of ø 2mm scale 1:100

d) Draw a hyperbola when the distance of the fixed point from fixed line is 65 mm and e = 3/2. Draw tangent and normal to this curve at a point 40 mm below the axis. (08)

A) A line AB 65 mm long has its end A 20 mm above H.P and 25 mm in front of V.P. The end B is 40 mm above H.P. and 65 mm in front of V.P. Draw Projections of AB and show its inclinations with H.P. and V.P. (08)

B) Draw the projection of a regular Hexagon of 25 mm side having one of its side in the H.P. and inclined at 60° to the V.P. and its surface making an angle 45° with H.P. (08)

C) Draw conventional symbols. (Any four) (08)
1) Glass ii) wood iii) steel iv) stud v) fillet

Draw 1) Front view 2) Top view and (24)
3) R.H. Side view of given isometric block.
Ref. Fig. No.1

Draw Isometric view of given orthographic projection. Ref. Fig No.(2) (24)

a] Draw free hand sketches of the following (Any four) (24)
1) Eye foundation Bolt 2) Eye Bolt
3) Acme Thread 4) Knuckle Thread
5) Conical Rivet 6) Lap Joint

Assemble and draw 3 views by orthographic projection of given components of 'v' Block holder. (24)

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INDIAN TECHNICAL EDUCATION SOCIETY
SESSIONAL EXAMINATION
AUGUST - 2011
AS PER NEW SYLLABUS

Date : 21/ 8/ 2011 Time : 2.30PM TO 6.30PM
Marks : 100

MECHANICAL DRAUGHTSMAN - II
(MD – II / DMES - III / ADMES – III / DPDD – I / DPES - II)

Note : 1. Question No. 1 is compulsory.
2. Solve any THREE questions from the remaining Q. No. 2 to Q. No. 6.
3. Figures to the right indicates marks.
4. Assume suitable data if necessary but note it in the answer.

Q. 1 **Solve 'Any Four'.** **(28)**

A) State and draw various scales used in Engg. Drawing, Show the R.F.

B) Draw a neat sketch of Important drawing instruments (Any Three)

C) Show the sectional representation / Geometrical symbols of following.
1. Concrete 2. Water / Liquid 3. Internal Threads
1. True position 2. Concentricity 3. Flatness

D) Construct a parabola in, a 100 x 60mm^2 block.

E) Draw a ellipse with concentric circle method. Take major and minor axis as 90 and 50 mm. resp.

Q. 2 **Solve any two problems out of Three.** **(24)**

A) Draw the Involute of a Circle of 40mm diameter.

B) Construct a diagonal scale of R.F. = $\frac{1}{32}$ showing yards, feet and inches and to measure upto 6 meters show the reading of 3.7 meter.

C) To draw a comman internal tangent of two given circles of unequal radial of 35 mm and 21 mm respectively. The centre to centre distance between the two circles is 115 mm.

Q. 3 Draw the following views by using first angle projection method **(24)**
(Ref. Fig. No. 1)
1. Front View 2. Top View 3. LH Side View

Q. 4 Draw the Isometric view from the orthographic views, given in **Fig. No. 2** **(24)**

Q. 5 A) Draw the **Fig. No. 3** of Blue print Drawing Read it properly and answer the given questions in good lettering. **(12)**

B) **Draw the free hand sketches of following.** **(12)**
1. Acme Threads 2. Dome Nut 3. Ball pen hammer

Q. 6 Draw orthographic 3 views of a assembled 'C' clamp. The details of parts are given with **Fig. No. 4.** **(24)**

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SESSIONAL EXAMINATION
APRIL / MAY - 2017

:- 10/05/17

Time: - 2.30PM TO 6.30PM
Marks: 100

MECHANICAL DRAUGHTSMAN – II (MD-II / DMES-III)

1. Q.1 is compulsory.
2. Solved any three questions from the remaining Q. 2 to Q. 6.
3. Figures to the right indicate full marks.
4. Question paper in English will be treated as standard.

A] Explain dimensioning system with sketches (07)

B] Draw involute of circle whose diameter is 40 mm. (07)

C] Draw isometric scale for 90 mm dimensions. (07)

D] Construct a regular pentagon and Heptagon when the lenyth of side is 50 mm by General method (07)

A] A line AB 90 mm long is inclined at 45° to the H.P. and its top view makes an angle 60° with the V.P. The end 'A' is in the H.P. and 12 mm in front of V.P. Draw its front view and final its true Inclination with V.P. (12)

B] A thin 30°, 60° setsquare has its longest edge in the V.P. and inclined at 30° to the H.P. It's surface makes an angle of 45° with V.P. Draw its projection. (12)

Draw using 1st angle method of projection
1) Front view 2) Top view 3) side view
Ref Fig. No. 1 (24)

Draw Isometric view of fig. No. 2 (24)

Draw free hand sketches of the following (Any Four) (24)

i) Metric thread 'V'
ii) Eye Foundation Bolt
iii) Dome nut
iv) Woodruff key
v) Set Squares
vi) Dot punch

Assemble and Draw three views by orthographic projection of give component of 'V' block holder.
Fig No. 3 (24)

INDIAN TECHNICAL EDUCATION SOCIETY
SESSIONAL EXAMINATION
FEB. - 2020

Date: 9/02/2020 Time: - 2:00 PM TO 6:00 PM
Marks: 100

MECHANICAL DRAUGHTSMAN – II (MD-II / DMES-III)

Note : 1. *Question No. 1 & Q. 6 are compulsory.*
2. *Solve any Two questions from the remaining Q. No. 2 to Q. No. 5.*
3. *Figures to the right indicates full marks.*
4. *Retain all construction lines.*
5. *Assume suitable data wherever necessary.*

Q. 1 A) A thin Hexagonal plate 30mm side is resting on a corner in the HP with its surface perpendicular to HP and inclined at 45^0 to VP. Draw its projections when two sides are perpendicular to HP. **(10)**

B) Inscribe a regular heptagon (seven sides) in a circle of 60mm diameter.

C) A thin pentagonal plate. ABCDE 30 mm side has side AB parallel to VP And 15 mm away from it. Draw its three views, when its surface is perpendicular to HP and inclined at 30^0 to VP. **(10)**

Q. 2 A) Construct an involute for a given circle of diameter 30mm. **(10)**

B) A thin pentagonal plate of side 35 mm has a central hole of 25mm diameter. It is resting on one of its corner in HP with its surface perpendicular to V.P. and inclined at 45^0 to HP. Draw its projection. **(15)**

Q. 3 Draw free hand sketches of the following along with its standard dimensions. **(25)**
a) Pan head with Taper neck rivet.
b) Slotted Nut
c) Double riveted Lap joint.
d) Metric Threads.
e) Lewis Foundation bolt
or Rag Foundation bolt

Q. 4 Draw following projections in third angle method for object shown in Figure 1. **(25)**
a) Front view b) R.H. side view c) Top view

Q. 5 Draw isometric view of an object of following projections given in Figure 2. **(25)**
Construct an isometric scale and use the same for above.

Q. 6 Assemble all parts of screw jack and draw following views of assembly. **(25)**
1. Front View
2. Top View
3. Sectional and View

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INDIAN TECHNICAL EDUCATION SOCIETY
SESSIONAL EXAMINATION
April / May - 2018

Date:05/05/2018

Time: - 2.30PM TO 5.30PM
Marks: 100

DIPLOMA MECHANICAL ENGINEERING SERVICES(DMES / DCNC –IV)

Note: Section 1 1. Q.1 is compulsory.
2. Solved any five questions from the remaining Q. 2 to Q. 7.

Section 2 1. Q.1 is compulsory.
2. Solved any three questions from the remaining Q. 2 to Q. 5.

Section I 60 marks

Q. No. 1 A] Fill in the blanks. **(10)**

1) Surface plate is used for...measurement
2) Over Head cranes are used for..Handling Material.
3) Tool storage records are maintained by....Store keeper
4) Gang ways of the factory must be free from ...dust... and material
5) E.S.I. Stands for.....Employees state Insurance.
6) Proprietorship company is run by...owner
7) Railways in India is..... company.
8) Supervisor must maintain..Record.. while shift change.
9) Grease and oils are used for..lubrication machines.
10) Quality control equipments must be calibrated .....one.....in year.

B] State true or False and correct the wrong sentence. **(10)**

1) Dress code is not essential in factory. × Dress Code is essential in factory
2) Tool crabe log written by manager.
3) Drill is single point cutting tool. ✓
4) Safty is the last to be attended in work shop. × safety is first attended in work shop
5) Micrometer is cutting tool. × micrometer is measuring tool

Q. No. 2 A] What is the role of supervisor in shift change ? **(10)**

B] Write Briefly the qualities of good supervisor.

Q. No. 3 A] What is importance of Bill of material in assembly of job. **(10)**

B] What is role of supervisor in assembly department.

Q. No. 4 A] Explain the duties of H.R. and personel department in industry. **(10)**

B] Write a short note on welfare of work man in industry.

Q. No. 5 A] How electrical safty is maintained in industries. **(10)**

B] What is minimum wage act.

Q. No. 6 A] Is chield labour allowed to work in the factory. Why? **(10)**

B] What are the qualities of good workman? **(10)**

Contd... (02)

Q. No. 7 A] What is preventive and Break down maintenance?

B] How record of machine is maintained?

Q.No. 8 Define Following.

A) Quality circle. B) T.Q.M. C) Q. A. D) Time study

Section II

Q. No. 1 A] Convert the followings.

a) 1 K.G. is = 2.205 Pounds.
b) 1 Meter = 3.280 foots.
c) 32° C - == 89.6 degree F
d) 5352 Grams = 5.352 K. G.
e) Center of Gravity of circle is ....

B] If (A+ B) / (A – B)= 5/2 Then Calculate A/ B. = $\frac{7}{3}$

Q. No. 2 State The Formulas of following.

A) Volume of cylinder $\pi r^2 h$ **B) Volume of cone** $\frac{1}{3}\pi r^2 h$ **C) Area of cone** $\pi r(r+\sqrt{h^2+r^2})$ **D) Area of**

B) Solve ....(A + B)² =.........................., (A – B)² =...........................

Q.No. 3 Define

A) Volume of Cylinder, B) Horse Power, C) Cutting speed D) Work D

E) Accelaration

Q.No. 4 A] Write the calculation for finding out least count of vernier calliper.

B] Driver gear of 100 teeth, Driven gear is 50 teeth. How many turns Revolutions of driven gear to complete one turn of Driver gear.

Q. No. 5 Make the bill of material for following job shown in drawing.
Assume the sutable data if necessary.
All the dimensions are given in M. M.
Metal – Mild Steel.

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[Marks : 107]

INDIAN TECHNICAL EDUCATION SOCIETY
SESSIONAL EXAMINATION
OCT. / NOV. – 2014

ate : 30/10/2014

Time : 10.00 AM TO 1.00 PM
Marks : 100

DIPLOMA MECHANICAL ENGINEERING SERVICES (DMES – II / ADMES – II / DCNC – IV)

ote : 1. Q.1 are compulsory,
2.solved any five questions from the remaining.
3.Figures to the right indicate full marks.
4 Question paper in English will be treated as standard

1 A) Fill in the blanks. **(10)**

1. Die is a _____ cutting tool.
2. Full form of C.N.C. machine is _____.
3. In two start threads, lead is distance equal to _____ times of pitch value.
4. _____ layout need less spale requirement.
5. Galvanizing is the process of _____ coating.
6. In case of method of transmission of power and motion, positive drive is _____ drive.
7. _____is the process of softening the metals.
8. Bending is the process of _____ addition as well as _____ subtraction type.
9. Faster movement of light load shifting is achieved by _____ system.
10. _____ maintenance is always beneficial is factory.

B) State True or False and correct False one. **(10)**

1. Return stroke of the shaper is smaller than the cutting stroke.
2. Lead screw of lathe machine has square threads.
3. Nit riding is a case hardening heat treatment.
4. Dissimilar metals which cannot be joined by welding may be joined by bronze welding.
5. Dial indicator is one sort of mechanical comparator.
6. Milling cutters are made by high carbon steel.
7. Right word welding in more economical than left word.
8. Lead and pitch are same in single start threads.
9. Grinding the surface is one of the way to provide super finish.
10. Lathe machine can accommodate the number of cutting tools at a time.

2 A) Write down the different types of lathe operations. Briefly explain any four operation. **(08)**

B) How the lathe machine can be specified? **(04)**

C) Differentiate between capstan & turret lathe. **(04)**

3 A) How a milling machine can be classified ? Give uses of them as per the types. **(08)**

B) What is meant by indexing ? Give its calculation. **(04)**

C) Name the type of milling cutters along with the uses. **(04)**

Contd...2...

Q. 4 **Write short notes on the following. (Any four)** **(16)**

1. Balancing of grinding wheel
2. Taper turning
3. Honing
4. Electro plating
5. Advantage of C.N.C.
6. Process layout

Q. 5 A) What is the necessity of surface finish? **(04)**

B) Briefly explain any one method of surface finishing. **(05)**

C) What are the advantages of coating. **(04)**

D) Name the type of gears & their use or feature for drive in one sentence. **(03)**

Q. 6 A) What is meant by 'heat Treatment' ? Write it's purpose. **(06)**

B) Write down the methods of Heat Treatment briefly. **(06)**

C) Write down briefly about 'CAM'. **(04)**

Q. 7 A) What is preventing maintenance ? **(04)**

B) What are the advantages of 'PM'. **(04)**

C) Give a maintenance schedule for any machine and a material handling equipment you know. **(08)**

Q. 8 **Differentiate between the following.(Any four)** **(16)**

1. Annealins & Hardening.
2. Product layout & Process Layout.
3. Subtraction process & Addition process in machining.
4. Coating & Painting.
5. Lapping & Honing.
6. Revolving Center & Dead Center.

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OCT. / NOV. – 2014

Time : 2.30 PM TO 5.30 PM
Marks : 100

DIPLOMA MECHANICAL ENGINEERING SERVICES (DMES – IV /ADMES - IV)

Section – I
1. Question no 1 is compulsory.
2. Solve any FOUR questions from Q.No 2 to Q.No 8

Section - II
1.Question no 1 is compulsory.
2. Solve any THREE questions from Q.No 2 to Q.No 5

SECTION –I [MARKA – 60]

A) **Fill in the blanks** (10)

1) ISO means _____.
2) NBA means _____.
3) TQM means _____.
4) Minimum wedges Act form in year _____.
5) _____ Act is form in year 1961.
6) ESI stands for _____.
7) P F stands for _____.
8) Q C means _____.
9) _____ is a important part of customer service.
10) _____ is required to while purchasing material.

B) **State TRUE or FALSE. Correct the FALSE statement.** (10)

1) Zero defects programmed created by NEC Corporation of Japan.
2) The workmen's compensation Act provides compensation in case Of Sickness.
3) C R I M stands for Central Industrial Relations Machinery.
4) Selection of Workmen should be as per Requirement.
5) Inventory is the part of store management.

A) **What is Quality Standards?** (05)
B) **Explain Factory Act 1948** (05)
A) **What is role of Human Relation department in Industries?** (05)
B) **What Qualities are required in Decision Making?** (05)
A) **What is Incentive Scheme?** (05)
B) **What is First Aid & Why First Aid box is required in Industries.** (05)
A) **Explain following** (05)
1) **Provident Fund Act.** (05)
2) **Minimum Wedges Act.** (05)
A) **Write Qualities of good Supervisor.** (05)
B) **Explain Apprenticeship Act.** (05)
A) **Explain principle of supervision.** (05)
B) **Which points will you consider while Job Allocation.** (05)
A) **Explain Time Study.** (05)
B) **Explain Work Study.** (05)

Contd...2...

SECTION –II [MARKS – 40]

A) Convert the following.

1) 1 H P = ________ Watt.
2) 1 Metric HP = ________ Watt.
3) 1 cm = ________ Inch.
4) 1.325 gm = ________ mg.
5) 12.5 gallon = ________ Liter

B) Solve the following.(ANY TWO)

1) $3\frac{1}{3} - 2\frac{3}{8} = ?$
2) $\frac{3.5 \times 2.65 - 2.55}{2.5 \div 0.5 - 0.2} = ?$
3) $2x + y = 12, x - y = 3$ find the value of x & y

Q.2 A) Calculate Area of Equilateral Triangle having side of 20 cm.

B) Find the Circumference & Area of semi Circle whose radius is 6 cm

Q.3 Write the formula for.

1) Work 2) Power 3) Energy 4) Power Transmission by Belt 5) Velocity.

Q.4 A) Calculate Taper angle for O.D 80 mm & I.D 42 mm, taper length is 35 mm

B) Calculate cutting speed for machining dia 40 & RPM 360

Q.5 A) Explain Bill of Material.

B) Explain Velocity Ratio.

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