

**Administration of union Territory of Dadra and Nagar Haveli
Industrial Training Institute
Silvassa**

Written Test

Time: 1Hr 30 min

Date: 22nd Aug 2009

CANDIDATE CODE: _____ SIGNATURE OF CANDIDATE _____

Instruction:

- Use the pen provided for answering.
- Put cross in the relevant box to mark the answer.
- Mark only one option for each question.
- Each question carries equal weightage.

1. Which of the following cricketers holds the world record of maximum number of sixes in Tests?

- (a) Chris Carins (New Zealand)
- (b) Viv Richards (West Indies)
- (c) Sachin Tendulkar (India)
- (d) Wasim Akram (Pakistan)

2. Who among the following has been appointed chairman of the National Commission for Farmers?

- (a) Ajit Singh
- (b) K. C. Pant
- (c) Dr. M. S. Swaminathan
- (d) None

3. Which of the following countries was readmitted to the Commonwealth recently?

- (a) Nepal
- (b) Myanmar
- (c) Pakistan
- (d) None of these

4. Who is India's first Woman Grand Master in Chess?

- (a) Aarthie Ramaswamy
- (b) Koneru Humpy
- (c) S. Meenakshi
- (d) S. Vijayalakshmi

5. The age of a tree can be determined by

- (a) Measuring its height
- (b) Measuring its diameter
- (c) Analyzing its sap

- (d) Counting the annual growth rings of its stem
6. Which of the following pairs is correctly matched?
- | | | | |
|-----|--|---|------|
| (a) | Purna Swaraj Resolution | : | 1929 |
| (b) | Martyrdom of Sardar Bhagat Singh | : | 1931 |
| (c) | Formation of the Congress Socialist Party: | | 1939 |
| (d) | Shimla Conference | : | 1940 |
7. Which one of the following is essentially a solo dance ?
- (a) Kuchipudi
 - (b) Kathak
 - (c) Manipuri
 - (d) Mohiniattam
8. Although fog consists of fine drops of water, we cannot see clearly through it because
- (a) The light rays undergo total internal reflection in the drops
 - (b) Fine drops of water in fog polarize the light
 - (c) The fine drops are opaque to the light
 - (d) The drops scatter most of the light
9. During the Mughal period, which one of the following were the first to come to India as traders?
- (a) Portuguese
 - (b) Dutch
 - (c) Danish
 - (d) English
10. Who is the author of the book, “The Man Who Divided India” ?
- (a) Arun Shourie
 - (b) Dominique Lapierre
 - (c) Rafiq Zakaria
 - (d) Salman Rushdie
11. India has signed an agreement to procure Advanced Jet Trainer (Hawk) from which of the following countries ?
- (a) USA
 - (b) UK
 - (c) France
 - (d) Russia
12. Which of the following parts of the poppy plant is used for the extraction of opium?
- (a) Capsules
 - (b) Flowers
 - (c) Leaves

- (d) **Roots**
13. **During the Indian freedom struggle, The Deccan Educational Society was founded by**
- (a) **B.G. Tilak**
 - (b) **Dadabhai Naoroji**
 - (c) **G.K. Gokhale**
 - (d) **M.G. Ranade**
14. **The 73rd Amendment of the Indian Constitution introduced the**
- (a) **Fundamental right to freedom of religion**
 - (b) **Devolution of power to Panchayat Raj Institutions.**
 - (c) **Fundamental right to property**
 - (d) **Right against exploitation**
15. **Endoscopy, a technique used to explore the stomach or other inner parts of the body, is based on the phenomenon of**
- (a) **Total internal reflection**
 - (b) **Interference**
 - (c) **Diffraction**
 - (d) **Polarisation**
16. **India has different categories of Commercial banks. Which of the following is not one such category?**
- (a) **Private Banks**
 - (b) **Commodity Banks**
 - (c) **Nationalized Banks**
 - (d) **Co-operative Banks**
17. **Who amongst the following was the Captain of the Indian cricket team which won the Twenty20 World Cup 2007?**
- (a) **Yuvraj Singh**
 - (b) **M.S. Dhoni**
 - (c) **Rahul Dravid**
 - (d) **Sourav Ganguly**
18. **Benazir Bhutto was associated with which of the following political parties ?**
- (a) **Muslim League**
 - (b) **Pakistan People's Party**
 - (c) **Pakistan National Congress**
 - (d) **Islamic Movement of Pakistan**
19. **Mogadishu is the capital town of**
- (a) **Somalia**
 - (b) **Turkey**
 - (c) **Cuba**

(d) Libya

20. Which of the following countries is not happy with the USA's decision to award a Congressional Medal to Dalai Lama of Tibet ?

- (a) China**
- (b) Pakistan**
- (c) Nepal**
- (d) Myanmar**

21. Which of the following is a public sector unit ?

- (a) TCS**
- (b) ICICI Bank**
- (c) TESCO**
- (d) BHEL**

22. Malegaon which was in News recently is a town known for which of the following businesses ?

- (a) Glassware**
- (b) Software**
- (c) Electronic Goods**
- (d) Textile (Powerlooms)**

23. World's No.1 Tennis player Roger Federer is a citizen of

- (a) USA**
- (b) Switzerland**
- (c) Canada**
- (d) Australia**

24. Mr. Navin Chawla is the

- (a) Cabinet Secretary, Government of India**
- (b) Foreign Secretary, Government of India**
- (c) Chief Election Commissioner**
- (d) Attorney General of India**

25. Magsaysay Awards are given in which of the following categories ?

- (a) Literature**
- (b) Peace and International Understanding**
- (c) Public service**
- (d) All of the above**

26. The property of a material by virtue of which it will fracture without appreciable deformation is called

- a) Ductility**
- b) Brittleness**

c) Stiffness

d) Stress

27. All metallic materials having iron as their main constituent are popularly known as

a) Ferrous metals

b) Ceramics

c) Non-ferrous metals

d) Polymers

28. Blast furnace charge consists of alternate layers of

a) Coke and flux

b) Charcoal and flux

c) Ore, coke and flux

d) Ore and flux

29. The carbon content in high carbon steel varies from

a) 0.08 to 0.3%

b) 0.3 to 0.6%

c) 0.6 to 1.5%

d) 2 to 4.5%

30. Which of the following alloying elements improves the corrosion resistance in steel.

a) Aluminium

b) Boron

c) Chromium

d) Cobalt

31. Y-alloy is an alloy of

a) Aluminium

b) Copper

c) Lead

d) Tin

32. Which of the following alloys is used in air-craft industries

a) Brass

b) Bronze

c) Gun metal

d) Duralumin

33. The unit of density is

a) Kg / m^3

b) N / m^3

c) m^3 / Kg

d) m^3 / N

34. 10 Kg =

a) 9.81 Newton

b) 98.1 Newton

c) 981 Newton

d) 9810 Newton

35. The unit of stress is

- a) N / m^2
- b) Kg / cm^2
- c) N / mm^2
- d) All of the above

36. Young's modulus is the ratio of

- a) Shear stress to shear strain
- b) Direct stress to direct strain
- c) Shear strain to shear stress
- d) Direct strain to direct stress

37. The value of Poisson's ratio is always

- a) Equal to 1
- b) Greater than 1
- c) Less than 1
- d) All of the above

38. What is the value of stress induced in 20 mm diameter rod, subjected to an axial load of 3140 N.

- a) $1 \text{ N} / \text{mm}^2$
- b) $10 \text{ N} / \text{mm}^2$
- c) $0.1 \text{ N} / \text{mm}^2$
- d) $100 \text{ N} / \text{mm}^2$

39. Rigidity modulus is the ration of

- a) Shear stress to shear strain
- b) Direct stress to direct strain
- c) Lateral strain to linear strain
- d) Linear strain to lateral strain

40. Bulk modulus is the ratio of

- a) Shear stress to shear strain
- b) Direct stress to direct strain
- c) Comp. stress to Comp. strain
- d) Direct stress to volumetric strain

41. The amount of instantaneous stress induced in a rod of cross section A, when subjected to a suddenly applied load of P, is equal to

- a) P / A
- b) $2P / A$
- c) $3P / A$
- d) $4P / A$

42. The maximum amount of strain energy which can be stored in a body is known as

- a) Proof stress
- b) Proof resilience

c) Modulus of resilience

d) None of the above

43. Mechanical advantage may be defined as, the ratio of

a) Load to effort

b) Effort to load

c) Stress to strain

d) strain to stress

44. The ratio of limiting friction to the normal reaction between the two surfaces is known as

a) Solid friction

b) Fluid friction

c) Angle of friction

d) Co-efficient of friction

45. In case of v-threads with ' 2β ' as v-thread angle and ' μ ' as co-efficient of friction, the value of virtual co-efficient of friction (' μ' ') is

a) $\mu / \cos\beta$

b) $\mu \cos\beta$

c) $\mu / \sin\beta$

d) $\mu \sin\beta$

46. The condition for the maximum power transmission through belt with usual notations, is

a) $v = (T / 3m)^{1/2}$

b) $v = (3m / T)^{1/2}$

c) $v = (T)^{1/2} / 3m$

d) $v = T / (3m)^{1/2}$

47. The angle of contact between pulley and belt in case of crossed belt drive is always

a) Less than 90°

b) Less than 180°

c) Greater than 180°

d) Between 90° and 180°

48. Which of the following types of gears are used to connect the two shafts which are perpendicular but not intersecting

a) Spur gears

b) Worm and worm wheel

c) Bevel gear

d) Rack and pinion

49. The ratio of the pitch circle diameter of gear in millimeter to the number of teeth, is known as

a) Addendum

b) Dedendum

c) Circular pitch

d) Module

50. The radial distance from the top of the tooth to the bottom of the tooth in a meshing gear, is known as

- a) Clearance**
- b) Addendum**
- c) Dedendum**
- d) Module**

51. For the pipe fitting like elbow, tee union etc, which of the following is preferred?

- (A) Pig iron**
- (B) Malleable iron**
- (C) Spheroidal graphite cast iron**
- (D) High carbon steel**

52. It is required to cut screw threads of 2 mm pitch on a lathe. The lead screw has a pitch

of 6 mm. If the spindle speed is 60 rpm, then the speed of the lead screw will be.

- (A) 10 rpm**
- (B) 20 rpm**
- (C) 120 rpm**
- (D) 180 rpm**

53. Which one of the following welding processes uses non-consumable electrodes?

- (A) TIG welding**
- (B) MIG welding**
- (C) Manual arc welding**
- (D) Submerged arc welding**

54. In sheet metal blanking, shear is provided on punches and dies so that

- (A) Press load is reduced**
- (B) Good cut edge is obtained**
- (C) Warping of sheet is minimized**
- (D) Cut blanks are straight**

55. For obtaining a cup of diameter 25 mm and height 15 mm by drawing the size of the round blank should be approximately.

- (A) 42 mm**
- (B) 44 mm**
- (C) 46 mm**
- (D) 48 mm**

56. Annealing is the process of

- (A) inducing hardness**
- (B) relieving stresses**
- (C) reducing grain size**

(D) none of the above

57. In high speed steel the maximum percentage of any alloying element is

- (A) carbon**
- (B) vanadium**
- (C) molybdenum**
- (D) tungsten**

58. The process of converting steel ingot into sheets is known as

- (A) rolling**
- (B) forging**
- (C) pressing**
- (D) extrusion**

59. During which operation on a lathe, the spindle speed is usually least?

- (A) Knurling**
- (B) Drilling**
- (C) Thread cutting**
- (D) Parting off**

60. Undercutting is

- (A) An operation of cutting extra wide threads**
- (B) A collection of chips**
- (C) An operation involving external as well as internal cutting**
- (D) An operation of cutting a groove next to a shoulder on a piece of work.**

61. For cutting a thin steel tube by a hack saw, a blade with how many teeth per inch would you select.

- (A) 12**
- (B) 16**
- (C) 32**
- (D) 18**

62. Which of the following is specified by an alphabet letter on a grinding wheel?

- (A) Structure**
- (B) Grain size**
- (C) Grade**
- (D) all of the above**

63. A taper shank on drill bits is provided for

- (A) Drilling taper hole**
- (B) Quick insertion in spindle**
- (C) Use on tapered surfaces**
- (D) Varying cutting speed in portion to the size of the job.**

64. Three operations to be done on a job are threading, boring and drilling. Which of the following represents the correct sequence of operation?
- (A) Drilling, boring and threading
 - (B) Drilling, threading and boring
 - (C) Boring, drilling and threading
 - (D) Threading, boring and drilling.
65. The operation of making a cone shaped enlargement of the end of a hole is known as
- (A) counter boring
 - (B) counter sinking
 - (C) boring
 - (D) step drilling.
66. A shaper cannot be used for
- (A) Producing flat surface
 - (B) Cutting key ways
 - (C) Cutting gears
 - (D) Producing round surfaces.
67. Which type of grains is preferred for foundry sand?
- (A) Cubical
 - (B) Round
 - (C) Cylindrical
 - (D) Sharp and irregular shaped
68. Pattern used in investment castings are made of
- (A) Wax
 - (B) Metal
 - (C) Graphite
 - (D) Wood
69. The chemical used for generating acetylene is
- (A) Carbon
 - (B) Charcoal
 - (C) Crushed bone
 - (D) Calcium carbide.
70. Voltage for arc welding is usually
- (A) 60-100V
 - (B) 100-220V
 - (C) 220-350V
 - (D) 350-1500V.

71. For joining of rails which welding process would you recommend?

- (A) Gas welding**
- (B) Thermit welding**
- (C) Electrical resistance welding**
- (D) Arc welding.**

72. The purpose of heat treatment is to

- (A) Relieve the stresses set up in the material after hot or cold working**
- (B) Modify the structure of the material**
- (C) Change grain size**
- (D) all of the above**

73. The property of sand due to which it evolves a great amount of steam and other gases is called

- (A) Collapsibility**
- (B) Permeability**
- (C) Cohesiveness**
- (D) Adhesiveness.**

74. The purpose of a gate is

- (A) Deliver molten metal into the cavity**
- (B) Act as a reservoir for the molten metal**
- (C) Feed the molten metal to the casting in order to compensate for the shrinkage**
- (D) Deliver molten metal from pouring basin to gate.**

75. A file with 20 teeth in 25 mm is called

- (A) Rough file**
- (B) Bastard file**
- (C) Second cut file**
- (D) Smooth file.**