SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: MTE (18CE0110) **Course & Branch**: B.Tech – CE

Year & Sem: II B.Tech & II Sem **Regulation:** R18

UNIT-I

1.a) List the classifications of rocks and explain the classification based on geological formation. 5M

b) Describe the characteristics of good building stones. 5M

2. (a) Explain the defects caused due to seasoning of timber. 5M

(b) What are the objects of preservation of timber? 5M

3. Classify the bricks and explain the working of Hoffman's kin for the burning of bricks 10M

4. (a) Explain different types of shakes in timber. 5M

(b) Explain defects due to seasoning 5M

5. (a) Explain various quarrying methods of stone along with their importance. 5M

(b) Explain the process of burning bricks in Hoffman's kiln with a neat sketch 5M

6. (a) Explain various types of seasoning of Timber. 5M

(b) What are the characteristics of good timber and its common uses in building industry? 5M

7. (a) Mention the factors to be considered while deciding a quarry site. 5M

(b) Explain methods of quarrying. 5M

8. (a) Explain the tests required to determine the suitability of bricks for construction work 5M
(b) With a neat sketch, explain the parts of Bull's trench kiln. 5M

9. a) Write about the classification of Trees 5M

b) Describe the most common types of defects associated with timber. 5M

10.Write about manufacturing and defects of bricks? 10M

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UNIT-II

1.a) What are the properties of cement	5M
b) Explain in detail about the procedure to find consistency of cement	5M
2.Write about manufacturing of ordinary cement.	5M
3. a) What are the field tests of cement	5M
b) What are the ingredients of cement? Explain them	5M
4. a) Explain chemical composition of paint?	5M
b) Give the Flowchart for the preparation of Paint?	5M
5.a) Define Distemper and varnish?	5M
b) Write about painting plastered surfaces and painting metal surfaces?	5M
6.What are the defects in paint and explain any five of them?	10M
7.Explain about white wash and color wash?	10M
8. a) Explain soundness and fineness test on cement?	5M
b What is the test procedure for specific gravity of cement?	5M
9.a) Write about gypsum and rubber	5M
b) write about dry and wet process of cement?	5M
10.Write about	10M

a. Pig iron b. Cast iron c. Steel d. Glass e. Asbestos

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UNIT-III

1.Write about classification of aggregates 10M

2.What are the mechanical properties of coarse aggregates 10M

3. a. What do you mean by soundness of aggregate? Explain 5M

b. What is alkali-aggregate reaction? And how will it affect the concrete properties. 5M

4. a. How do you conduct sieve analysis on coarse aggregate in laboratory? 5M

b. Explain the test procedure for aggregate impact value test? 5M

5. Describe briefly the classification of tar and the specifications of bitumen as a building material. 10M

6. What are the mechanical properties of coarse aggregate? 10M

7.Write about M sand and explain the tests and testing of sand? 10M

8.What are the bituminous mixes? 10M

9.Describe tests and testing of bitumen? 10M

10.Write about 10M

a. Bitumen material

b. asphaltic material

c.Aggregate crushing value

d.seive analysis of aggregate

e. aggregate impact value

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UNIT-IV

1. Explain in detail the slump test with the help of a neat sketch. Discuss its merits and limitations. 10M
2. a. What do you understand by the term "Workability"? 5M

   b. Discuss the various factors affecting the workability of concrete. 5M
3. Explain briefly the different methods to measure the workability of concrete? 10M
4. Briefly explain the manufacturing procedure of concrete. 10M
5. a. Explain the phenomenon of gain of strength of concrete with age. 5M

   b Calculate the Gel/space ratio and the theoretical strength of a sample of concrete made with 500 gms of cement and 0.6 w/c ratio, on full hydration and 70% hydration. 5M
6. a. What are the various factors affecting the properties of Fibre Reinforced concrete? 5M

   b. Write the various applications of Fibre Reinforced concrete. 5M
7. Explain briefly self-compacting concrete including the advantages and disadvantages
8. a. What is light weight concrete? How is it produced? 5M

   b. What are the light weight aggregate concrete? 5M

9.Write about mixing and vibration of concrete? 10M

10.Write about 10M

a. High performance concrete

b. polymer concrete

c.fiber reinforced concrete

d.light weight concrete

e. ceramics

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QUESTION BANK (DESCRIPTIVE)

Subject with Code: MTE (18CE0110) **Course & Branch**: B.Tech - CE
Year & Sem: II B.Tech & I Sem **Regulation:** R18

UNIT V

1.What is Elasticity and explain characteristics of Elasticity? 10M

2.Explain plastic deformation of metals and Tensile test? 10M

3.Define True stress-strain interpretation of tensile test? 10M

4.Discuss about Hardness test and different types of hardness tests for material? 10M

5.Explain about bending and torsion test? 10M

6.What is creep and write about factors affecting on creep? 10M

7.What is the brittle fracture of steel? 10M

8.Write about strength of ceramic and internal friction of material? 10M

9.Expalin about temperature transition approach of materials? 10M

10.Discuss about standards of different materials? 10M

a. Brittle
b. Quasi brittle
c.Elastic

Prepared by**: D.SREEKANTH**

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QUESTION BANK (OBJECTIVE)

Subject with Code : MTE (18CE0110) **Course & Branch**: B.Tech - CE

Year & Sem: II B.Tech & II Sem **Regulation:** R18

UNIT-I

1. Stones are obtained from rocks that are made up of: [ ]

A. Ores B. Minerals C. Chemical compounds D. Crystals

2. Which one of the following is not a classification of stones? [ ]

A. Physical Classification B. Mineralogical Classification

C. Chemical Classification D. Practical Classification

3. The hot molten material occurring naturally below the surface of the Earth is called: [ ]

A. Lava B. Slag C. Magma D. Tuff

4. At what depth and rate is a hypabyssal rock formed? [ ]

A. Slow cooling of magma at considerable depth B. Quick cooling of magma at a shallorf w depth

C. Rapid cooling of magma at Earth's surface D. Rapid cooling of magma at a shallow depth

5. What is a sedimentary deposit? [ ]

A. Weathered product remains at site

B. Weathered product carried away in solution

C. Weathered product gets carried away agents

D. Insoluble weathered product is carried away in suspension

6. Which factor disturbs the equilibrium of rocks, commencing metamorphism? [ ]

A. Increase in temperature B. Decrease in temperature and pressure

C. Increase in temperature and pressure D. Decrease in pressure

7. Which of the following is not a metamorphic change? [ ]

A. Calcite to schist B. Limestone to marble C. Shale to slate D. Granite to gneisses

8. Which of the following rocks are hard and durable? [ ]

A. Argillaceous rocks B. Siliceous rocks C. Calcareous rocks D. Carbonaceous rocks

9. Foliated structure is very common in case of: [ ]

A. Sedimentary rocks B. Plutonic rocks C. Igneous rocks D. Metamorphic rocks

10. Granite is a type of: [ ]

A. Plutonic rock B. Metamorphic rock C. Hypabyssal rock D. Volcanic rock

11. Which of the following is a hand tool used for quarrying? [ ]

A. Plier B. Hammer C. Quarrying wire D. XSM

12. What is the relation between LLR (Line of Least Resistance) and amount of explosives to be used? [ ]

A. Higher the LLR, higher the amount of explosive

B. Higher the LLR, lesser the amount of explosive

C. 10% more explosive for every 1m of LLR

D. 10% less explosive for every 1m of LLR

13. Which of the following is not an explosive used for blasting? [ ]

A. Gelignite B. Gunpowder C. Flash powder D. Nitrocellulose

14. What is used to accelerate the process of rubbing in rubbed finish dressing? [ ]

A. Water B. Water and sand C. Clay D. Pebbles

15. Dressing of stones is carried out to: [ ]

A. To provide employment to people

B. To make transport of stones to site easy and economic

C. To reduce water content of stone

D. To avoid further works on the stone

16. How many types of dressings are there with respect to the place of work? [ ]

A. 4 B. 3 C. 2 D. None

17. Circular finished stones are generally used for: [ ]

A. Pillar B. Tombstone C. Landscaping D. Column

18. Quarry faced finished stones are also called: [ ]

A. Reticulated finish B. Hammer faced finished C. Rock faced stones D. Plain finish

19. Dynamite is a more effective explosive than gelignite. [ ]

A. True B. False C. Neither A nor B D. None of these

20. What is sand blasting? [ ]

A. Process of making carvings on stone surface B. Quarrying technique

C. Dressing type D. Process of using sand to blast stone surface

21. Which one of the below is the first step in the preparation of brick earth process? [ ]

A. Digging B. Site selection C. Cleaning D. Unsoiling

22. Why is the process of weathering performed? [ ]

A. To remove organic matter B. To prepare for next process

C. To improve plasticity D. To dry clay

23. The process of kneading brick earth is called: [ ]

A. Pugging B. Blending C. Ramming D. Tamping

24. Which one of the following is not a part of pug mill? [ ]

A. Vertical shaft B. Hub C. Cutting blades D. Timber base

25. How many methods of moulding brick earth are there? [ ]

A. 3 B. 5 C. 2 D. 4

26. The meaning of slop moulded bricks is: [ ]

A. Sand sprinkled inside mould B. Insufficiently moulded bricks

C. Brittle and slimy brick D. Mould dipped in water

27. Plastic clay method of machine moulding results in pressed bricks. [ ]

A. True B. False C. Neither A nor B D. None of these

28. Which is the most commonly employed drying method in India? [ ]

A. Hot floor drier B. Tunnel drier C. Natural drying D. Blow drying

29. Which of the following is not a chemical change that takes place in the brick earth during burning? [ ]

A. Dehydration B. Vitrification C. Oxidation D. Reduction

30. The depression provided in the face of a brick during its manufacturing is called: [ ]

A. Frog B. Furrow C. Groove D. Scallop

31. Seasoning of timber is the process of: [ ]

A. Burning timber B. Adding preservatives C. Removing water D. Adding glaze

32. Which of the below changes do not occur after seasoning? [ ]

A. Increase durability B. Decrease stiffness C. Workable timber D. Reduction in weight

33. Kiln seasoning gives stronger timber. [ ]

A. True B. False C. Neither A Nor B D. None of these

34. How much time does natural seasoning takes for timber to be properly seasoned? [ ]

A. 1-4 years B. 6-12 months C. 5-10 months D. 5-7 years

35. Which of the below is a disadvantage of air seasoning? [ ]

A. Power requirement B. Skilled supervision

C. Elaborate equipment D. Uniformity of seasoning

36. How many methods of artificial seasoning are there? [ ]

A. 3 B. 4 C.5 D.8

37. Which method leaves the timber brittle after seasoning? [ ]

A. Water seasoning B. Kiln seasoning C. Electric seasoning D. Boiling

38. Which of the below chemicals is not used in chemical seasoning? [ ]

A. Sodium chloride B. Urea C. Sodium hypochlorite D. Sodium nitrate

39. Which is the most rapid and effective method of seasoning? [ ]

A. Chemical seasoning B. Electric seasoning C. Kiln seasoning D. Natural seasoning

40. In kiln seasoning, the temperature of air inside chamber and humidity is high. [ ]

A. True B. False C. Neither A Nor B D. None of these

Prepared by: **D.SREEKANTH**.

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QUESTION BANK (OBJECTIVE)

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Sem: II B.Tech & II Sem **Regulation:** R18

UNIT –II

1. For quality control of Portland cement, the test essentially done is [ ]
   A. setting time B. Soundness C. tensile strength D. All the above

2. Lower the normal consistency value, [ ]
   A. Lower will be the strength of concrete B. Medium will be the strength of concrete
   C. Higher will be the strength of concrete D. None of the above
3. Under normal conditions using an ordinary cement, the period of removal of the form work, Is: [ ]
   A. 7 days for beam soffits B. 14 days for bottom slabs of spans 4.6 m and more
   C. 21 days for bottom beams over 6 m spans D. All The Above

4. The mixture of different ingredients of cement, is burnt at [ ]
   A. 1000°C B. 1200°C C. 1400°C D. 1900°C
5. Hydration of cement is due to chemical action of water with [ ]
   A. Tricalcium silicate and dicalcium silicate
   B. Dicalcium silicate and tricalcium aluminate
   C. Tricalcium aluminate and tetra calcium alumino ferrite D. All the above.

6. The size of vicat needle, used to conduct setting of cement is [ ]
   A. 10mm Dia B. 1mm Square C. 3mm Square D. 10 mm Dia
7. To obtain cement dry powder, lime stones and shales or their slurry, is burnt in a rotary kiln at a temperature between [ ]
   A. 1100° and 1200°C B. 1200° and 1300°C C. 1300° and 1400°C D.1400° and 1500°C
8. Workability improved by adding [ ]
   A. air-entraining agent B. foaming agent C. oily-agent D. all the above
9. The commonly used material in the manufacture of cement is [ ]
   A. sand stone B. Slate C. lime stone D. graphite.
10. Pick up the correct proportions of chemical ingredients of cement [ ]
    A. Lime: Silica: Alumina: Iron oxide: 63: 22: 6: 3
    B. Silica: Lime: Alumina: Iron oxide: 63: 22: 6: 3
    C. Alumina: Silica: Lime: Iron oxide: 63: 22: 6: 3
    D. Iron oxide: Alumina: Silica: Lime: 63: 22: 6: 3
11. The high strength of rapid hardening cement at early stage, is due to its [ ]
    A. finer grinding B. burning at high temperature
    C. increased lime cement D. higher content of tricalcium.
12. Vicat's apparatus is used for [ ]
    A. fineness test B. consistency test C. setting time test D. B and C
13. The rock which is not calcareous, is: [ ]
    A. lime stone B. Macl C. Chalk D. Laterite
14. For road pavements, the cement generally used, is [ ]
    A. ordinary Portland cement B. rapid hardening cement
    C. low heat cement D. blast furnace slag cement

15. Fine aggregates are the aggregates having the size less than: [ ]

A. 5mm B. 4.75mm C. 3.50mm D. 2mm

16. Choose the correct answer [ ]

A. Cement color should not be greenish

B. Smooth and gritty feeling when feel between the fingers

C. The cement should not float when thrown in a bucket full of water

D. None of the above

17. White wash is prepared from _____ [ ]

a) Quick lime b) Slaked lime c) Fat lime d) Hydraulic lime

18. While preparing whitewash, how many grams of gum dissolved in hot water is needed per cubic metre of lime cream? [ ]

A. 500 gm B. 1000 gm C. 1500 gm D. 2000 gm

19. Crystals of calcium carbonate formed by fat lime are not very strong. [ ]

A. True B. False C. Neither A Nor B D. None of these

20. While preparing whitewash, how many kilograms of sodium chloride dissolved in hot water is needed for every 10 kg of lime? [ ]

A. 1 kg B. 1.3 kg C. 2 kgD. 2.3 kg

21. _____ is used to apply whitewash. [ ]

A. Bevel B. Chisel C. Trowel D. Moonj

22. While preparing whitewash, up to how many grams of ultra-marine blue is added

per kg of lime? [ ]

A. 3 gm B. 30 gm C. 200 gm D. 300 gm

23. Which of the following is generally used as a pigment for colour washing? [ ]

A. Blue vitriol B. White vitriol C. Orange vitriol D. Brown vitriol

24. Before doing whitewashing on the _____, whitewashing on _____ must be done. [ ]

A. Walls, doors B. Ceilings, walls C. Walls, ceilings D. Walls, windows

25. In colour washing, the first coat should be of _____ [ ]

A. Colour wash B. White wash C. Mixture of colour wash and white wash D. Paint

26. Fifty litres of water is needed per kg of unslaked lime in the preparation of whitewash. [ ]

A. True B. False C. Neither A Nor B D. None of these

27. _____ defects is caused by the water vapour which is trapped behind the painted surface. [ ]

A. Flaking B. Fading C. Blistering D. Flashing

28. In _____ defect, the formation of dull patches occurs on the finished

polished surface. [ ]

A. Flaking B. Bloom C. Fading D. Flashing

29. A small portion of the painted surface is sometimes seen lose, it is known as the [ ]
A. Flashing B. Flaking C. Grinning D. Running

30. The glossy patches which are seen on the painted surface resembles the defect of [ ]
A. Flashing B. Saponification C. Wrinkling D. Sagging

31. The formation of soap patches on the painted surface is termed as the [ ]
A. Wrinkling B. Running C. Sagging D. Saponification

32. The appearance of clear background due to insufficient opacity is known as [ ]
A. Running B. Sagging C. Wrinkling D. Grinning

32. _____defect occurs when surface to be painted is too smooth. [ ]
A. Sagging B. Running C. Grinning D. Wrinkling

33. Boiled linseed oil is used as a solvent for _____ resin. [ ]
A. Amber B. Mastic C. Gum D. Rosin

34. The _____ varnishes dry slowly, but they form hard and durable surface. [ ]
A. Oil B. Spirit C. Water D. Turpentine

35. Which of the following is the purest form of iron? [ ]
(A) Cast iron (B) Wrought iron (C) Mild steel (D) High carbon steel

36. Asbestos [ ]
(A) Is an excellent insulator for heat and electricity (B) Is fire-proof and acid proof
(C) Has sp. gravity equal to 3.10 (D) All the above

37. Which of the following gradients exerts maximum influence on properties of steel? [ ]
(A) Iron (B) Carbon (C) Manganese (D) Sulphur

38. The process of decarbonising the pig iron completely and then adding proper percentage of carbon for manufacturing steel, is called [ ]
(A) Cementation process (B) Crucible process
(C) Bessemer process (D) Open hearth process

39. The steel used in R.C.C. work is [ ]
(A) Stainless steel (B) Mild steel (C) High carbon steel (D) Wrought iron

40. The commonly used base for iron and steel work, is [ ]
(A) Red lead (B) Zinc white
(C) White lead (D) Titanium white

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UNIT –III

1. In rich mixes; use of ___size aggregate gives better results. [ ]
   A. Larger B. Medium C. Smaller D. None
2. For given water content, workability decreases if the concrete aggregates contain an excess of [ ]
   A. thin particles B. elongated particles C. flaky particles D. all the above
3. For ensuring quality of concrete, use [ ]
   A. single sized aggregates B. two sized aggregate
   C. graded aggregates D. coarse aggregates
4. The standard sand now a days used in India, is obtained from [ ]
   A. Jaipur B. Jullundur C. Hyderabad D. Ennore
5. The maximum amount of dust which may be permitted in aggregates is [ ]
   A. 5% of the total aggregates for low workability with a coarse grading
   B. 10% of the total aggregates for low workability with a fine grading
   C. 20% of the total aggregates for a mix having high workability with fine grading
   D. all the above.
6. The bulk density of aggregates does not depend upon: [ ]
   A. size and shape of aggregates B. specific gravity of aggregates
   C. grading of aggregates D. size and shape of the container
7. An aggregate is said to be flaky if its least dimension is less than [ ]
   A. 1/5th of mean dimension B. 2/5th of mean dimension
   C. 3/5th of mean dimension D. 4/5th of mean dimension
8. To ensure constant moisture content in aggregates [ ]
   A. height of each aggregate pile should not exceed 1.50 m
   B. aggregate pile should be left for 24 hours before aggregates are used
   C. conical heaps of aggregates should be avoided to prevent moisture variation
   D. all the above
9. For the construction of cement concrete floor, the maximum permissible size of fine aggregate, is [ ]
   A. 4.75 mm B. 6.23 mm C. 8.12 mm D. 10.50 mm
10. The process of proper and accurate measurement of concrete ingredients for uniformity of proportion, is known [ ]
    A. grading B. Curing C. Mixing D. Batching
11. Pick up the correct statement from the following: [ ]
    A. Insufficient quantity of water makes the concrete mix harsh
    B. Insufficient quantity of water makes the concrete unworkable
    C. Excess quantity of water makes the concrete segregated D. All the above
12. Slump test is done for [ ]
    A. clay B. Sand C. lime D. concrete

13. Pick up the correct statement from the following: [ ]

A. The weight of ingredients of concrete mix, is taken in kilograms

B. Water and aggregates are measured in litres

C. 20 bags of cement make one tonne D. All the above

14. Concrete mainly consists of [ ]

A. cement B. Aggregates C. Admixture D. all the above

15. Workability of concrete is measured by [ ]

A. Vicat apparatus test B. Slump test C. Minimum void method D. Talbot Richard test

16.Internal friction between the ingredients of concrete, is decreased by using [ ]

A. less water B. fine aggregates

C. rich mix D. more water and coarse aggregates

16. The property of separation of cement paste from concrete while placing the concrete is called [ ]

A. Compaction B. Segregation C. Bleeding D. Shrinkage

17. To prevent segregation, the concrete should not be thrown from a height of more than [ ]

A. 0.25m B. 0.5m C. 1.0m D. 1.5m

18. Factors affecting Workability of concrete [ ]

A Water Content B Mix Proportions

C Size, Shape &Surface structure D All of the above

19. Separation of the constituent materials of concrete is [ ]

A Segregation B Bleeding C Workability D Vibration

21.which of the following aggregates gives maximum strength in concrete [ ]

A. Rounded aggregates B. Elongated aggregates Flaky aggregates D Cubical aggregates

22.The maximum bulking of sand is likely to occur at a moisture content of [ ]

A.5% B.8% C.11% D.14%

23.the best reflection of strength of coarse aggregate is given by [ ]

A Crushing B Impact C 10% percent fines D Hardness

24.For high strength concrete the best aggregate is [ ]

A rounded B irregular C. angular D. all-in-aggregates

26.petroleum bitumen is obtained from [ ]

A.fractional distillation B extraction C atmospheric – vaccum distillation D destructive distillation

27.The grade of wood tar is used for grouting purpose is [ ]

A RT-1 B RT-2 C RT-4 D RT-5

28.Coal tar pitch is classified on the basis of [ ]

A viscosity B Softening Point C sp.gr D Ductility

29. Bitumen is obtained from [ ]

a) Wood b) Petroleum c)Coal d) Kerosene

30. Tar is obtained from _____ [ ]

a) Wood b) Petroleum c) Coal d) Kerosene

31. The solvent used in cut back bitumen is [ ]
a) Kerosene b) Oil c) Petrol d) Diesel

32. Which of the following grade of bitumen is harder? [ ]
a) 30/40 b) 60/70 c) 80/100 d) All are equal

33.The temperature in penetration test is _____ [ ]
a) 25 b) 30 c) 27 d) 35

34. The softening point of bitumen in the given options (in degree Celsius) will be ____ [ ]
a) 25 b) 30 c) 35 d) 80

35. The distance between two samples in penetration test should be _____ [ ]
a) 10mm b) 15mm c) 20mm d) 25mm

36. The volume of water in setting time test is? [ ]
a) 0.78p b) 0.75p c) 0.85p d) 0.95p

37. Bitumen is _____ [ ]
a) Pyrogenous b) Natural c) Either natural or pyrogenous d) Artificial

38. The resistance to flow is measured by _____ [ ]

a) Flash and fire b) Viscosity c) Penetration test d) Ductility test

39. The minimum ductility value specified by BIS for bitumen is [ ]

a) 50 cm b) 25 cm c)75 cm d)100 cm

40. The allowable maximum water content in bitumen should not be more than [ ]

a) $^{2\%}$ by weight b) $^{0.2\%}$ by weight c) $^{2.5\%}$ by weight d) $^{5\%}$ by weight

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QUESTION BANK (OBJECTIVE)

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Year & Sem: II B.Tech & II Sem **Regulation:** R18

UNIT – IV

1. The characteristic strength of M 50 concrete is _____ [ ]
   A. 40 N/ mm^2 B. 60 N /mm^2 C. 50 N /mm^2 D. 30 N /mm^2

2. The cylindrical strength of concrete is _____ times the strength of the cube [ ]
   A. 10 B. 1.5 C. 0.8 D. 8

3. Wp and Wf are the weights of a cylinder containing partially compacted and fully compacted concrete. If the compaction factor is 0.95, the $\left(\frac{W_P}{W_f}\right)$ workability of concrete is [ ]
   A. extremely low B. very low C. Low D. High

4. The risk of segregation is more for [ ]
   A. wetter mix B. larger proportion of maximum size aggregate
   C. coarser grading D. all the above

5. The increased cohesiveness of concrete, makes it [ ]
   A. less liable to segregation B. more liable to segregation
   C. more liable to bleeding D. more liable for surface scaling in frosty weather

6. Workability improved by adding [ ]
   A. air-entraining agent B. foaming agent
   C. oily-agent D. all the above

7. Proper proportioning of concrete, ensures [ ]
   A. desired strength and workability B. desired durability
   C. water tightness of the structure D. all the above

8. Curing [ ]
   A. reduces the shrinkage of concrete B. preserves the properties of concrete
   C. prevents the loss of water by evaporation D. all of the above

9. While compacting the concrete by a mechanical vibrator, the slump should not exceed [ ]
   A. 2.5 cm B.5.0 cm C. 7.5 cm D. 10 cm

10. Curing a concrete for long period ensures better [ ]
    A. volume stability B. Strength C. water resistance D. all the above

11. The factor which affects the design of concrete mix is [ ]
    A fineness modulus B water – cement ratio C slump D all the above

12. Commonly employed test for measurement of cement workability is _____ [ ]
    A. Slump test B. Kelley bell test C. Vee consists meter D. All

13. Slump test is done for [ ]
    A. clay B. Sand C. lime D. concrete

14. Pick up the correct statement from the following: [ ]
A. The weight of ingredients of concrete mix, is taken in kilograms
B. Water and aggregates are measured in liters
C. 20 bags of cement make one tonne
D. All the above

15. Concrete mainly consists of [ ]
A. cement B. Aggregates C. Admixture D. all the above

16. Workability of concrete is measured by [ ]
A. Vicat apparatus test B. Slump test
C. Minimum void method D. Talbot Richard test

17. Internal friction between the ingredients of concrete, is decreased by using [ ]
A. less water B. fine aggregates C. rich mix D. more water and coarse aggregates

18. The property of separation of cement paste from concrete while placing the concrete is called [ ]
A. Compaction B. Segregation C. Bleeding D. Shrinkage

19. To prevent segregation, the concrete should not be thrown from a height of more than [ ]
A. 0.25m B. 0.5m C. 1.0m D. 1.5m

20. Factors affecting Workability of concrete [ ]
A Water Content B Mix Proportions
C Size, Shape &Surface structure D All of the above

21. The compaction of concrete, improves [ ]
A. Density B. Strength C. Durability D. all the above.

22. Segregation is responsible for [ ]
A. honey-combed concrete B. porous layers in concrete
C. surface scaling in concrete D. All the above

23. Addition of pozzolana to cement [ ]
A. decreases workability B. increases strength
C. increases heat of hydration D. Increase workability

24. The process of selecting suitable ingredients of concrete and determining their relative quantities can be called as [ ]
A. Mix design B. Specific gravity C. Compressive strength D. None

25. Modulus of rupture of concrete is a measure of _____strength [ ]
A. Split tensile B. Compressive C. Direct tensile D. Flexural tensile

26. According to IS 456-2000, the modulus of elasticity of concrete Ec, can be taken as _ [ ]
A. $Ec = 570\sqrt{fck}$ B. 5700 fck C. $5700\sqrt{fck}$ D. $5000\sqrt{fck}$

27. Increase in the moisture content in concrete _____ [ ]
A. Reduces the strength B. Increases the strength
C. Does not change the strength D. All the above

28. Modulus of elasticity of steel as per IS: 456—2000 shall be taken as _____ [ ]
A. $20kN/cm^2$ B. $200kN/cm^2$ C. $200kN/mm^2$ D. $2 \times 10^6 N/cm^2$

29. The factor of safety for concrete _____ than steel [ ]
A. Lower B. Higher C. Equal D. None

30. According to Indian standards the grading of fine aggregate is divided into _____ [ ]
A. Two zones B. Four zones C. Five zones D. Three zones

31. With the increase in rate of loading during testing compressive strength of concrete [ ]

A. Increases B. Decreases C. Remains same D. None

32. To determine the modulus of rupture the size of test specimen used is _____ [ ]

A. 150 X 150 X 500mm B. 100 X 100 X 700mm C. 150 X 150 X 700mm D. None

33. The ratio between stress in steel to that of stress in concrete in expressed as __ [ ]

A. Poisson's ratio B. Modular ratio C. Density ratio D. None

34. Select the Non – destructive test among the following _____ [ ]

A. Compression test B. Flexure test C. Rebound hammer test D. All the above

35. The process of selecting suitable ingredients of concrete and determining their relative quantities can be called as [ ]

A. Mix design B. Specific gravity C. Compressive strength D. None

36. The formula for determining the cement content is given by _____ [ ]

A. W/C ratio/ water content B. Water content /W/C ratio

C. Cement / W/C ratio D. All the above

37. According to India standards the coarse aggregate should conform to _____ _[ ]

A. IS: 383 -70 B. IS: 381-70 C. IS: 382 -70 D. None

38. Standard deviation can be calculated as [ ]

A. $S = \sum x/n$ B. $S = \sqrt{\sum(x - \bar{x})^2/n-1}$ C. $S = \sum(x - \bar{x})^2/n$ D. None

39. As per IS: 456-2000, the high strength concrete should have the characteristic strength of _____ [ ]

A. M40 B. M35 C. M65 D. All the above

40. Maturity of concrete is the product of _____ [ ]

A. Time B. Velocity C. Time & Temperature D. None

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QUESTION BANK (OBJECTIVE)

Subject with Code : MTE (18CE0110) **Course & Branch**: B.Tech - CE

Year & Sem: II B.Tech & II Sem **Regulation:** R18

UNIT –V

1. _____ occurs when metal is subjected to a constant tensile load at an elevated temperature?
   a) Fatigue **b) Creep** c) Impact d) Wear
2. Creep is a ____ dependent phenomenon.
   a) Temperature **b) Time** c) Load d) Stress cycle
3. 3. Creep occurs due to sliding of _____
   a) Vacancies b) Voids c**) Grain boundaries** d) Dislocations
4. 5. The _____ the melting point and the _____ the elastic modulus, the higher is creep strength.
   a) Lower, lower b) Lower, higher c) Higher, lower **d) Higher, higher**
5. In _____ creep, atoms diffuse along grain boundaries and grains elongate in stress axis.
   a) Dislocation b) Nabarro-Herring **c) Coble** d) Solute drag
6. Which statement is correct regarding creep strength?
   a) Wrought materials have higher creep strength than cast materials
   b) With an increase in temperature, steady state creep rate decreases
   c) **Creep strength can be improved by precipitation hardening**
   d) Aromatic rings in polymer decrease creep strength
7. _____ is the resistance of a material to plastic deformation by indentation.
   a) Toughness b) Resilience **c) Hardness** d) Stiffness
8. What is SI unit of hardnessa) kg/m^3 b) **kg/m^2** c) g/m^2 d) N/m
9. The hardness of martensite _____ with an increase in carbon content.
   a) Increases b) Decreases c) Remains constant d) First increases and then decreases
10. . _____ improve hardness.
    a) **Strain hardening** b) Plasticizers c) Over aging d) Tempering
11. When hardness is measured under dynamic loading conditions, it is known as _____ hardness.
    a) Brinell b) **Rebound** c) Knoop d) Rockwell
12. With an increase in temperature, hardness of material _____ and ductility _____
    a) Increases, increases b) Increases, decreases
    c**) Decreases, increases** d) Decreases, decreases
13. Which process increases the hardness of the material?
    a) Tempering b) Annealing c**) Quenching** d) Over aging
14. . Which statement is false?
    a) Alloying increases hardness of the pure metal
    b) Dual phase alloys are harder than single phase alloys
    c) Interstitial solid solutions are harder than substitutional solid solutions
    d) **Heat treatment always decreases the hardness of a material**
15. Which microconstituent of Steel is hardest?
    a) Spheroidite b) Pearlite c) Bainite **d) Martensite**
16. The ability of the material to withstand tensile force, without breaking, is known as _____
    a) Yield strength **b) Tensile strength** c) Compressive strength d) Creep strength
17. Which one of the following factor decreases the tensile strength?
    a) Cold working b) Alloying c) **Temperature rise** d) Grain refinement
18. If the Brinell hardness of a steel specimen is measured 149 HBN. What will be the UTS?
    a) 431 MPa **b) 514 MPa** c) 608 MPa d) 637 MPa

19. Find the minimum tensile strength of spring material ASTM A232 having diameter 3 millimeter, exponent m = 0.155 and constant A = 173 kpsi.
a) 120 kpsi b) **146 kpsi** c) 158 kpsi d) 167 kpsi

20. Tensile strength increases with increasing _____
a) Temperature **b) Molecular weight** c) Purity d) Grain size

21. What is SI unit of yield strength?
a) N **b) N/m^2** c) Nm^2 d) g/cm^2

22. Strain offset of _____ is commonly used.
a) 0.002 b) 0.004 c) 0.006 d) 0.008

23. _____ is the maximum stress that can be applied to the material without causing plastic deformation.
a) Tensile strength b) Fatigue strength c) Compressive strength d**) Yield strength**

24. With decreasing grain size, yield strength of material _____
a) Increases b) Decreases c) Remains constant d**) First increases then decrease**

25. Which material shows the yield point phenomenon?
a) Copper **b) Aluminium** c) Steel d) Silver

26. Which factor deteriorates yield strength?
a) Cold working **b) Annealing** c) Work hardening d) Grain refinement

27. Yield point phenomenon creates problems in deep drawing operations of sheet Steels.
a) True b) False

28. The slope of the stress-strain curve in the elastic deformation region is _____
a**) Elastic modulus** b) Plastic modulus c) Poisson's ratio d) None of the mentioned

29. What is the stress-strain curve?
a) It is the percentage of stress and stain
b) It is the relationship between stress and strain
c) It is the difference between stress and strain
d) None of the mentioned

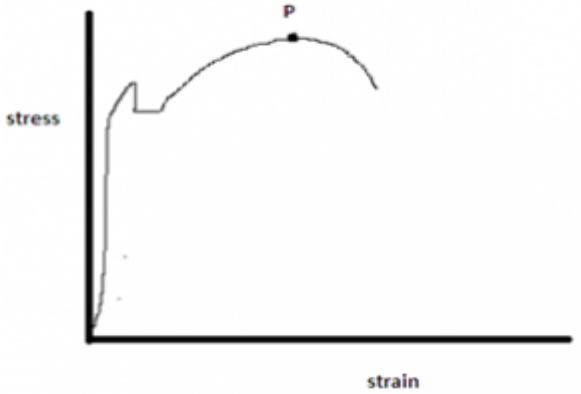
30. Which point on the stress strain curve occurs after the proportionality limit?
a) Upper yield point b) Lower yield point c**) Elastic limit** d) Ultimate point

31. Which point on the stress strain curve occurs after the lower yield point?
a) Yield plateau b) Upper yield point c) Ultimate point d) None of the mentioned

32. Which point on the stress strain curve occurs after the ultimate point?
a) Last point **b) Breaking point** c) Elastic limit d) Material limit

33. 7. Elastic limit is the point _____
a) up to which stress is proportional to strain
b) At which elongation takes place without application of additional load
c**) Up to which if the load is removed, original volume and shapes are regained**
d) None of the mentioned

34. What is the point P shown on the stress strain curve?



a) Upper yield point b) Yield plateau c) Elastic limit **d) Ultimate point**

35. Where is the necking region?

a) The area between lower yield point and upper yield point

b) The area between the plastic limit and elastic limit

c) The area between the ultimate point and initial point

d) The area between the ultimate point and rupture

36. In _____ fracture, the crack grows at a slow pace and a lot of plastic deformation occurs.

a) Ductile b) Brittle c) Fatigue d) De-cohesive

37. . _____ amount of energy strain is required for ductile fracture.

a) Higher b) Lower c) Intermediate d) Can't say

38. What term is referred to the failure of highly ductile materials?

a) Ductile rupture b) Orange peel c) Patenting d) Buckling

39. What appearance does ductile fracture under microscope give?

a) Irregular and rough b) Smooth c) Plate like d) Shiny

40.Ductile fracture generally occurs in _____

a) Metals b) Ceramics c) Plastics. d) Composites

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