Question bank for LDC examination

General Feature

1. Steep gradients which need extra engine for hauling is known as
a) Pusher gradient*
b) Rulling Gradient
c) Reasonable gradient
d) Momentum gradient

2. Rising gradient followed by a falling gradient is known as
a) Rulling gradient
b) **Momentum gradient***
c) Pusher graient
d) Aangular gradient

3. The safety in Railway in India is looked after by
a) Ministry of Railways
b) Commission of Railway Safety*
c) Railway Board
d) Headquarter Office

4. Longest platform of the world on BG is
a) At Sonepur station*
b) At Sasaram station
c) At Allahabad station
d) At Kharagpur station

5. The ruling gradient is 1 in 200 on a section of the BG track. If the track is laid in that place at a curve of 5 degrees then the allowable ruling gradient on the curve will be
a) 1 in 16.7
b) 1 and 400
c) 1 in 240
d) 1 in 333*

6. The number of stations on Indian Railways is
a) 6000 approximately
b) 7070 approximately*
c) 8000 proximately
d) 9000 approximately

7. Longest tunnel on Indian Railway is
a) Kharbude tunnel on Konkan Railway*
b) Near Lonavala between Monkey hill and Khandala station
c) Kalka Shimla
d) Darjeeling hill Railway

8. Longest Railway Bridge on Indian Railway is
1. Sone Bridge at Dehri on Sone*
2. Yamuna Bridge at Kalpi
3. Ganga Bridge near Patna
4. Pamban Bridge

9. Longest passenger train on Indian Railway is
1. Prayagraj Express*
2. Kalka Mail
3. Himsagar express
4. Lucknow mail

10. Railway station at the highest altitude on Indian Railway is
1. Ghum station in Darjeeling Himalayan Railway*
2. Shimla station on Kalka Shimla railway line
3. Mount Abu and Abu Road Mount Road station
4. Joginder Nagar on Pathankot jogindernagar section

Track and track gauges

1.Track Structure for private siding with operating speed of 80 to 100 kmph is same as the track structure as specified for

a) Group B route
b) Group A route
c) Group D route*
d)Group C route

2. Track structure for private siding with operating speed 50 to 80 kmph is the same as track structure as specified for
a)Group A route
b) Group B route
c) Group D route
d)Group E route*

3. Indicate which of the statement is incorrect with regard to coning of Wheels
a)coning of wheels help the vehicle to negotiate a curve smoothly
b) It helps in smooth riding
c) It increases wear and Tear of wheel flanges*
d)it enables the outer wheel of vehicle to take a longer distance
e) it restricts the swaying of vehicles

4. Tilting of rails is done at a slope of
a. 1 in 30
b. 1 in 25
c. 1 in 20*
d. 1 in 15

5. Clear perpendicular distance between inner faces of two rails is
a. Gauge of track*
b. Inner gauge
c. Wheel base
d. Wheel gauge

6. The ratio of wheel diameter to gauge is about
a. 0. 40
b. 0.55
c. 0. 75*
d. 0. 90

7. The train runs faster on BG than on MG rail because its speed is directly proportional to
a) Weight of the train*
b) Gauge width
c)Policy of Railway Board
d) Length of the train

8. The ratio of maximum cant e and gauge G in India is about
a)1 / 100
b) 1 / 50
c)1 /10*
d) 1 / 25

9. "Composite sleeper index" is employed to determine
a) sleeper density requirement
b) number of fixtures required for a particular type of sleeper
c) durability of sleeper
d) mechanical strength of wooden sleepers and thereby gives its suitability as to be used as li sleepers.*

10. The maximum permissible speed recommended for Indian Railways for 1 in 8 and half crossing is
a)16 kmph*
b) 20 kmph
c)24 kmph
d) 32 kmph

11.What is the weight per meter length of 52 kg Rail?
a. 54.14 kg
b. 50.25 kg
c. 51.89 kg*
d. 53.85 kg

12.What is the height of 60 kg rail section?
a. 180 mm
b. 172 mm*
c. 185 mm
d. 165 mm

13.In M+7 sleeper density, how many sleepers are there in a km Track.
a. 1660 nos
b. 1540 nos.*
c. 1310 nos.
d. 1440 nos.

14.What is the assessed GMT service life of 60 kg 90 UTS rail?
a. 650 GMT
b. 600 GMT
c. 800 GMT*
d. 500 GMT

15.What is the assessed GMT service life of 52 kg 90 UTS rail.
a. 650 GMT
b. 600 GMT
c. 525 GMT*
d. 500 GMT

16.What is the full form UTS of rails
a. Ultimate technical Strength
b. Ultimate tensile Strength*
c. Upper Top surface
d. None of above

17.What is the width of Head of 52 kg Rail section
a. 70 mm
b. 75 mm
c. 67 mm*
d. 60 mm

18.What is the full form of GMT
a. Gross Million Tonnes*
b. Gross minimum thickness
c. Gross Maximum thickness

d. None of above

19.In Indian Railway how many Gauges of Track has been adopted
a. 1
b. 3*
c. 2
d. 4

20.What is the Highest speed of train in Indian Railway
a. 140 KMPH
b. 120 kmph
c. 160 kmph*
d. 130 kmph

21.How many divisions in Northern Railway
a. 5*
b. 4
c. 6
d. 3

22.What do you mean by BG
a. Big Gauge
b. Broad Gauge*
c. Buffer gauge
d. None of above

23.What do you mean by RDSO
a. Research & Development Standard organisation*
b. Railway Development & Standard organisation
c. Regional Development & Standard organisation
d. None of above

24.Where is the Head Quarter of Northern Railway
a. New Delhi*
b. Lucknow
c. Mumbai
d. Calcutta

25.What is the highest post in Railway
a. General Manager
b. Chief Engineer
c. Chairman Railway Board*
d. Divisional Railway Manager

26.What is the standard distance between lines in Broad Gauge
a. 1670 mm

b. 1676 mm*
c. 1665 mm
d. 1680 mm

27.What do you mean by LWR
a. Long welded Rail*
b. Long weld able Rail
c. Linear welded rail
d. None of above.

28.On the basis of temperature how many zones are in Indian railway
a. 2
b. 6
c. 4*
d. 7

29.What is the minimum distance centre to centre of straight tracks for new works/alterations to existing works.
a. 4265 mm.
b.3660 mm.
c.**5300 mm.***
d 4365 mm.

30.What is the full form of OMS used for track recording
a. Outer most Surface
b. Oscillation Monitoring system*
c. Only measuring system
d. Official measurement system

31.What is the frequency of track recording of the sections having speed more than 110 kmph to 130 kmph
a. 4 Months
b. 2 Months
c. 6 Months
d. 3 Months*

32.What is the full form of PQRS used for Track renewal works.
a. Plasser quick Relaying system*
b. Please quick return services
c. Poor Quality renewal system
d. None of above

33.Minimum radius of curve on Broad gauge
a. 175 meter*
b. 215 meter
c. 146 meter
d. 200 meter

34.Minimum check rail clearance at Level crossing
a. 45 mm
b. 51 mm*
c. 50 mm
d. 57 mm

35.Maximum height above rail level of high passenger Platform
a. 860 mm
b. 900 mm
c. 840 mm&*
d. 875 mm

36.Minimum clearance between toe of Open switch and stock rail for new works
a. 115 mm*
b. 120 mm
c. 95 mm
d. 110 mm

37.What is the formula of TGI for track recording
a. UI+4TI+6GI+AI/10
b. 2UI+TI+GI+6AI/10*
c. 3UI+TI+2GI+5AI/10
d. 2UI+2tI+2GI+4AI/10

38.What is the limit of Unevenness of A category of track
a. 0 to 10 mm
b. 0 to 5 mm
c. 0 to 6 mm*
d. 0 to 8 mm

39.What is the difference between rail flange of 60 kg & 52 rail section
a. 20 mm
b. 18 mm
c. 14 mm*
d. 16 mm

40. what is the value of long chord for measuring unevenness in track recording

a. 3.6 meter
b. 9.6 meter*
c. 7.2 meter
d. 4.8 meter

41. Frequency of TTM tamping on PSC sleepers track
a. 2 years or 100 GMT which ever is earlier*

b. 2 years or 150 GMT which ever is earlier
c. 1.5 years or 200 GMT which ever is earlier
d. 2 years or 175 GMT which ever is earlier

42. How many sleepers are there in Fan shaped 1 in 12 turnout
a. 85 sleepers
b. 96 sleepers*
c. 90 sleepers
d. 100 sleepers

43.Minimum wing rail clearance opposing nose of crossing on Fan shaped turnout
a. 45 mm
b. 40 mm
c. 41 mm*
d. 44 mm

44.Overall length of fan shaped 1 in 12 Turnout
a. 39975 mm*
b. 41004 mm
c. 28613 mm
d. None of above

45.What is the full form of TGI
a. Track Geometry Index*
b. Track general Index
c. Track gravity Index
d. None of above

46.Permissible speed of Turnout with 1 in 12 curved switches
a. 40 kmph*
b. 25 kmph
c. 15 kmph
d. 20 kmph

47.Permissible speed of Turnout with 1 in 8.5 curved switches
a. 40 kmph
b. 25 kmph*
c. 15 kmph
d. 20 kmph

48.How many green flags are with Patroller during Hot weather patrolling.
a. 02
b. 03
c. 01
d. None of above*

49.Lowest level of staff/supervisor competent for TTM tamping operation in LWR/CWR.

a. Gang Mate
b. PWS
c. PWI*
d. Keyman.

50.Lowest level of staff/supervisor competent for Lifting/Lowering of track in LWR/CWR.

a. Keyman.
b. Gangmate.
c. PWI.
d. PWS. *

51.Lowest level of staff/supervisor competent for packing or renewal of single isolated sleeper not requiring lifting or slewing of track in LWR/CWR.

a. PWI
b. Keyman
c. Gangmate*
d. PWS

52.Lowest level of staff/supervisor competent of Renewal of fastenings not requiring lifting in LWR/CWR.

a. PWS
b. Gangmate
c. Keyman*
d. Gangman

53.Lowest level of staff/supervisor competent for Renewal/recoupment of fastenings requiring lifting in LWR/CWR.

a. PWS
b. Gangmate*
c. Keyman
d. Gangman

54.Lowest level of staff/supervisor competent for Screening of ballast other than deep screening in LWR/CWR.

a. PWS
b. Keyman
c. Gangmate*
d. Gangman

55.Lowest level of staff/supervisor competent for Organising Hot weather patrolling during summer months in LWR/CWR.

a. Gangmate
b. PWI*
c. Keyman
d. PWS

31. Lowest level of staff/supervisor competent for all operations regarding distressing in LWR/CWR.
    a. PWI*
    b. PWS
    c. Gangmate
    d. Keyman

56.Lowest level of staff/supervisor competent for passing of first train after buckling in LWR/CWR.
    a. PWI*
    b. PWS
    c. Gangmate
    d. Keyman

57.How many zones are in Indian railway
    a. 8
    b. 10
    c. 16*
    d. 12

58.In LWR What is the range of Destressing temperature in 52 kg and heavier section
a. **Mean rail temp+5 ^{0}C to Mean rail temp+10 ^{0}C***
b. Mean rail temp+5 ^{0}C to Mean rail temp+15 ^{0}C
c. Mean rail temp to Mean rail temp+10 ^{0}C
d. Mean rail temp+2 ^{0}C to Mean rail temp+10 ^{0}C

59.What is full form of SPURT car
a. Self propelled ultrasonic rail testing car*
b. Self pulled united rail testing car
c. Self pumped universal testing car
d. None of above

60.What do you mean by 60 kg rail
a. Weight of rail in 1 meter*
b. Area of rail of 1 meter
c. Weight of rail in 1 feet
d. Volume of rail in 1 meter

61.Points & Crossing is laid at a cant of
a. 1 in 20
b. 1 in 10
c. 1 in 15
d. NIL*

62.Minimum permissible vertical wear on nose of a 52 kg CMS crossing on Rajdhani route is

i) 6mm
ii) 8mm*
iii) 10mm
iv) 12 mm

63.Normal life of detonators is

e. 5 years
f. 10 years
g. 7 years *
h. 6 years.

64.Maximum distance apart of trolley refuges on bridges with main spans of 100metre or more is

i. 50 mtr
j. 100 mtr
k. 200 mtr
l. a refuge over each pair*

65.Permissible creep in track is

m. 50 mm
n. 100 mm
o. 125 mm
p. 150 mm.*

66. Maximum distance covered in a day by a Patrolman should not normally exceed

q. 2 km.
r. 5 km.
s. 10 km.
***t.* 20 km . ***

67.Curve inspection shall be carried out by Sectional PWI

a. Once in three months
b. Once in six months
c. Once in four months*
d. None of above

68.An accident has taken place at out station and main line is blocked and relief train is to be turned out without medical car. The hooter shall be:

a. 3 long
b. 4 long*
c. 4 long, 1 short
d. 3 long, and 1 short

69.Minimum speed restriction to be imposed for Track renewal is:-

(a) Stop dead & 10 Kmph
(b) 10 Kmph

(c) 15 Kmph
(d) 20 Kmph*

70.Service life in terms of total GMT carried for 52 kg. 90 UTS rail is:-
(a) 425 GMT
(b) 475 GMT
(c) 525 GMT*
(d) 545 GMT

71.Minimum rail section recommended for section having traffic more than 20 GMT is
(a) 90 UTS
(b) 52 Kg.
(c) 60 Kg.*
(d) None of the above.

72.Lubrication of ERC and inserts in corrosion prone areas and platform line is done:-
(a) Once in a month.
(b) Once in a fortnight.
(c) Once in a week.
(d) Once in a year.*

73.Vertical wear permissible for 60kg/90UTS. rails is:-
(a) 23 mm.
(b) 10 mm.
(c) 13 mm.*
(d) 15 mm.

74. Permissible wear of web & foot of rail due to corrosion is:-
(a) 15 mm.
(b) 1.5 mm.*
(c) 0.5 mm.
(d) 2.5 mm.

75.Minimum depth of ballast cushion below the bottom of sleeper at the rail seat on BG group A route should be :-
(a) 350 mm.
(b) 250 mm.
(c) 300 mm.*
(d) 325 mm.

76.Sleeper density for group 'A' route with traffic density more than 20 GMT is:-
(a) 1560 sleepers/ Km.
(b)* 1660 sleepers/ Km.
(c) 1540 sleepers/ Km.
(d) 1340 sleepers/ Km.

77.Track structure for CC+8 t+ 2 t loaded trains is:-

(a) 52 Kg 90 UTS;PSC 1540 sleepers/ Km.; 250 mm ballast.
(b) 60 Kg 90 UTS;PSC 1660 sleepers/ Km.; 300 mm ballast.*
(c) 52 Kg 72 UTS;PSC 1540 sleepers/ Km.; 300 mm ballast.
(d) 90 R;PSC 1340 sleepers/ Km.; 250 mm ballast.

78.Deep screening of entire track must be done at least:-

(a) Once in a quarter.
(b) Once in a year.
(c) Once in 5 years.
(d) Once in 10 years.*

79.Service life of Glued insulated rail joint of 60 Kg rail is:-

(a) 300 GMT.
(b) 200 GMT.*
(c) 400 GMT.
(d) 150 GMT.

80.Service life of improved SEJ of 60 Kg rail is:-

(a) 400 GMT.
(b) 300 GMT.
(c) 200 GMT.*
(d) 150 GMT.

81.Service life of CMS crossing (52 Kg rail) is:-

(a) 400 GMT.
(b) 300 GMT.
(c) 200 GMT.
(d) 150 GMT.*

82.D&G charges for works estimates of CTR(P) is:-

(a) 2.25%.
(b) 1.8%.*
(c) 1.35%.
(d) 1.62%.

83. What is speed restriction on deep screening site done by BCM and tamped by machine followed with DGS?

(a) 20
(b) 30
(c) 40*
(d) 10

(Accidents, Derailments & Disaster Management,)

(1) ACD means

(a) Anti collision Devise*

(b) Accidents causing death

(c) Accidents causing derailment

(d) None of the above

(2) Duration of short hooter is……..

(a) 5 seconds*

(b) 10 seconds

(c) 15 seconds

(d) 20 seconds

(3) For taking track measurement at accident site stations shall be marked at …….. Apart.

(a) 1 m

(b) 2m

(c) 3m*

(d) 5m

(4) Flat tyre causes maximum damage at a speed of

(a) 90 to 100 kmph

(b) 25 to 30 kmph*

(c) 10 to 15 kmph

(d) 15 to 20 kmph

(5) As per IRCA rules, the rejection limits for wheel flange thickness is -

(a) 38mm

(b) 25.4mm

(c) 16mm*

(d) 20 mm

(6) Where Enquiries are ordered by DRM the enquiry report should be submitted to DRM within

(a) 5 days

(b) 7 days*

(c) 10 days

(d) 12 days

(7) In a semi permanent (BG) diversion the gradient should not be steeper then

(a) 1 in 75

(b) 1 in 125

(c) 1 in 100 *

(d) 1 in 150

(8) An accident will be termed as serious accident when the loss of Railway property is more then

(a) 3 lacs

(b) 10 lacs
(c) 25lacs*
(d) 15 lacs

(9) *Collision as per new classification is classified as
(a) A class*
(b) B class
(C) C class
(d) none of these

(10) Number of hooters to be sounded, when the accident takes place is Loco shed or in traffic

(a) One long hooter
(b) Two long hooters
(c) Two long & one short
(d) none to these

(11) Number of hooters to be sounded, when accident takes place out station, but main line is clear:

(a) 02 long
(b) 03 long*
(c) 03 long 01 short*
(d) none of these

(12) Duration of lone Hooter is:

(a) 20 seconds
(b) 25 seconds
(c) 30 seconds*
(d) 50 seconds

(13) "Accident Drill" is organized by:

(a) Engg. Officers
(b) Operating Officers
(c) Engg. & operating officers *
(d) none of these

(14) When flange contact of wheel leads tread contact. Then it is known as:

(a) Zero angularity
(B) Negative angularity
(c) Positive angularity*
(d) none of these

(15) The condition will be called as thin flange, when the flange thickness becomes less the:

(a) 10mm
(b) 12mm
(c) 16mm*
(d) 15mm

(16) Min. sleeper density in case of semi permanent diversion-

(a) (m + 2)
(b) (m + 3)*
(c) (m + 4)
(d) (m + 7)

(17) As per new classification of railway accident, floods breaches & land slides' is classified in the following class

(a) Class J
(b) Class K
(c) Class Q
(d) Class R*

(17) Diplorry can be worked:

(a) In block*
(B) without block
(c) With look put caution
(d) None of these

(18) Min. authority to be Incharge of lorry.

(a) Keyman
(b) Mate
(c) PWS*
(d) none of these

(19) UCC is abbreviated for

(a) Uncontrolled cement concrete
(b) Unified Control Command
(c) Unified Command Centre*
(d) none of them

(20) In a semi permanent (BG) diversion the gradient should not be steeper then
(a) 1 in 75

(b) 1 in 125
(c) 1 in 100*
(d) 1 in 150

(Schedule of Dimensions)

(1) The minimum centre to centre distance of a B.G. track in mid-section is …….. mm
(a) 4200
(b) **4265***
(C) 4350
(d) 4000

(2) Any deviations from the Schedule of dimensions will require prior sanction of …….
(a) Zonal Rly
(b) Rly Board*
(c) CRS
(d) All of them

(3) The maximum gradient in station yards should be ……. Unless special safely devices are adopted and/or special rules enforced.
(a) 1 in 400*
(B) 1 in 500
(c) 1 in 1000
(D) 1 In 600

(4) The recommended maximum gradient in the year for B.G is-
(a) 1 in 1000
(b) 1 in 1200*
(c) 1 in 1500
(d) 1 in 1800

(5)For B.G. the minimum radius of a curve is ……
(a) 150m
(b) 175*
(c) 200m

(d) 225m

(6) Check rails should normally be provided where the radius is ……. M or less in B.G.
(a) 150m
(b) 200m
(c) 208m*
(d) 225m

(7) On B.G. maximum clearances of check rails at a level crossing are
(a) 51mm
(b) 57mm*
(c) 65mm
(d) 54mm

(8) Minimum depth of space for wheel flange form rail level in B.G. is …… mm
(A) 35
(B) 38*
(C) 42
(D) 45

(9) The minimum horizontal distances form centre of track to face of passenger platform coping for B.G. is ……. Mm
(A) 1650 MM.
(B) 1670 MM*
(C)1676 MM
(D) 1685 MM

(10) What is maximum height above rail level for low-level passenger platform for BG?
(a) 300mm
(b) 455mm*
(c) 525mm
(d) 550mm

(11) Maximum curvature permitted on B.G. is
(a) 8 degree
(b) 10 degree*
(c) 12 degree
(d) 16 degree

(12) The minimum track centres in B.G. double line is
(a) 4500 mm
(b) 4750 mm
(c) 5000 mm
(d) 5300 mm*

(13) Maximum height of rolling stock on BG should be

(a) 2745mm
(b) 3250mm
(c) 3450mm
(d) 4140mm*

(14) Maximum width of rolling stock on BG should be
(a) 4745mm
(b) 3250mm*
(c) 3450mm
(d) 4140mm

(15) The gradient of a platform is generally
(a) 1 in 1000
(b) 1 in 750
(c) 1 in 500*
(d) 1 in 250

(16) Maximum clearance of check rails at level crossing for B.G. should be

(a) 48mm
(b) 57mm*
(c) 51mm
(d) 44mm

(17) Height gauges should be located at a minimum distance of….. from gate post.

(a) 5 m
(b) 7.5m
(c) 8m*
(d)10m

(18) O.D.C. Stands for

(a) On direct current
(b) Over dimensioned consignment*
(c) None of them
(d) Operating & gate

(19) In case of 'A' Class ODC escort is……..

(a) Necessary
(b) not necessary*
(c) does not matter
(d) on direct current

(20) For A class ODC, the gross clearance over maximum moving dimension of B.G is

(a) 150mm
(b) 175mm
(c) 225 mm*
(d) (d) 250mm

(21) For A Class, the gross clearance of over maximum moving dimension for BG is

(a) 100mm
(b) 125mm
(c) 150mm*
(d) 175mm

(22) Check rails should normally be provided where the radius is …. M or less in B.G.
(a) 150m
(b) 200m
(c) 218m*
(d) 240m

(23) On B.G. maximum clearances of check rails at a level crossing are

(a) 51 mm
(b) 57mm*
(c) 65mm
(d) 70mm

(24) The maximum height above rail level for B.G. goods platform is ……. Mm

(a) 1000mm
(b) 1050mm
(c) 1065mm*
(d) 1075mm

(25) Minimum clearance of check rails for B.G. at level crossing should be

(a) 48mm
(b) 57mm
(c) 51mm*
(d) 44mm

Water supply

1. Specific yield of well is
a) Discharge per unit time
b) Yield of well per metre of drawdown*
c) Velocity of water per unit time
d)None of the above

2.While taking sample of water from well, sample is collected
a)About 2 metre above the bottom of wel
b) About 1 metre above the bottom of well *
c)About 1 metres below the bottom of well
d) none of the above

3. While collecting sample of water from tap the
a) Mouth of tap is heated for 5 minutes*
b) Mouth of tap is heated for 10 minutes
c)Mouth of tap is not heated
d)none of the above

4. Demand of water for passengers on railway station is
a)10 litres per passenger
b)15 litres per passenger
c) 20 litres for passenger
d) 25 litres per passenger*

5. Peak hour demand of water is taken as ---------- times the average daily demand
a)1.5
b)1.9
c)2.25*
d)2.75

6. The spacing of tube wells should generally be more than ----------from the circle of influence
a)10 metre
b)50 metre
c)100 metre*
d) 500 metre

7. The capacity of highest storage tank with efficient standby pump should be higher of the following figures
a)1/4 the maximum water consumption in 24 hours
b)1/3 the normal water consumption in 24 hours
c)1/4 the normal water consumption in 24 hours.
d) a or b*
e) b or c
f) a of c

8. With regard to standard of quality of drinking water as laid down by Indian Railway , the requirement (desirable) limit of total dissolved solids should not be more than---------- mg/l
a)200
b) 300
c) 400
d) 500*

9. Chandigarh is a city which has roads generally parallel or perpendicular to each other. The ideal water supply system in such a city should be
a. Dead and system
b. Grid Iron system*
c. Ring system
d. Any of them
10. Give the most matching option out of list one and list to with regard to pipe appurtenances of fittings

Llist I type of fitting)	List -II(Function of the fitting)
A) Sluice Valves or gate Valves	1. We are provided to stop and regulate the flow of water in course of ordinary and emergency operations
B) Scour Valve	2. These are automatic cut off valves. when pressure of water exceeds specific limit the wall operates automatically and saves a particular section of pipe before bursting takes place
C) Air Valve	3. These are located at dead end and the lowest points or depressions in the water mains. Hence are operated to remove sand or silt deposited in the water pipe
D) Relief Valve	4. Whenever there are distinct high points in the gradient of the pipeline. They are installed to permit expulsion of air

Matching option

	A	B	C	D
(a)	1	2	3	4
(b)	**1**	**3**	**4**	**2***
(c)	2	4	1	3
(d)	4	3	2	1

11. From distribution main of 40 mm size , number of service pipe of 15 mm size can be taken off are---------
a) 3
b) 6
c) 10
d) 12*

12. From the distribution main of 40 mm size, number of service pipe of 20 mm size can be taken off are -------
a)3
B) 6*
c) 10

d) 12

13. From distribution main of 50 mm size, number of service pipes of 15 mm size can be taken off are ------
a) 6
b)10
c) 12
e):20*

14. PH value of drinking water as per wh0 standards should lie between
a)5 and 5.5
b)6 and 7
c) 7 and 7.5
d)7 and 8.5*

12. The amount of residual chlorine after a period of contact 10 to 20 minutes is
a. 0.1 to 0.2 ppm.*
b. 0.2 to 0.3 ppm.
c. 0.3 to 0.4 ppm
d. 0.4 to 0.5ppm
13. A rural water supply serves a population of 10, 000 at the rate of 50 litres per capita per day . For the chlorine dose of 2 PPM the required amount of bleaching powder with 20% available chlorine will be
a. 0.5 kg
b. 5 kg *
c. 10 kg
d. 15 kg
14. The main drawback of centrifugal pump is
a)necessity of priming
b) discharge from pump varies with the load of water
c) For high heads efficiency is low up to 50%
d) the suction lift is limited to 6 metre
e) all of the above*

15.Aeration Of water is done to remove
a) Odour*
b) Colour
c) Bacterias
d) Hardness
e) Turbidity

16. Requirement of water for platform washing is
a)5 litre per square metre per day *
b)10 litre per square meter per day
c) 15 litre per square metre per day
d)20 litre per square metre per day

17. Requirement of water for apron washing

a. 5 litre per square metre per day

b. 10 litre per square metre per day *

c. 15 litre per square metre per day

d. 20 litre per square metre per day

18. The pumping system should be capable of supplying the normal quantity of water required in 24 hours in

a)12 hours or less

b) 16 hours or less

c) 20 hours or less*

d) 8 hours or less

19. Water connection given to contractor for construction work can be discontinued by giving a notice of

a)3 days*

b) 2 days

c)7 days

d) no notice is required

BRIDGE

1. Initial inspection for PSC girders / Welded girder bridges as per IRBM 1998

a) **Within one year of installation***

b) Once in 3 years

d) Once in 2 years

d) Once in 5 years

2. Periodical inspection of Welded girders

a) Once in 3 years

b) **Once in 3 years***

c) Once in 2 years

d) Once in 5 years

3. Periodical inspection of PSC & Composite girders

a) Once in 3 years
b) **Once in 5 years ***
c) Once in 2 years
d) Once in 5 years

4. The date of painting of steel work should be painted in white on the out side of the left girder
a) of the 1st span only
b) **first span only but on all spans for Imp. Bridges***
c) of the all spans
d) None of the above

5. Camber in steel triangulated girder is provided to compensate for deflection
a) **Under live load and dead load***
b) Under live load
c) Under dead load
d) None of the above

6. The length of the snap head rivet shank is, when L = length of the rivet,
G = length of grip in mm; D = Dia of rivet in mm
a) **L =G +1.5 D + 1mm for every 4 mm of grip or part thereof ***
b) b) L =G +0.5 D + 1mm
c) L =G +0.5 D
d) None of the above

7. The length of the countersunk head rivet shank is, when L = length of the rivet,
G = length of grip in mm; D = Dia of rivet in mm
a) **L =G +0.5 D + 1mm for every 4 mm of grip or part thereof ***
b) b) L =G +0.5 D + 1mm
c) L =G +0.5 D
d) None of the above

8.A bridge is generally specified as "Br. No. 180 (5x9.10m G) at km 345/5-6".
a) Effective Span
b) Width of bridge
c) Clear Span*
d) Overall length of bridge

9. The strength of a bridge is termed as MBG loading of 1987. MBG refers to
a) Model Broad Gauge
b) Modified Budget Grant

c) Model Budget grant
d) **Modified Broad Gauge***

10.In a temporary signaling arrangements for a bridge work in BG section, caution board shall be placed in advance of ……. m from start of the bridge/ work spot.
a) 30 m
b) **1200 m***
c) 677 m
d) 1000 m

11. Free Board is the level difference between Formation Level and …….
a) Rail Level
b) **HFL***
c) Bed Level
d) Danger Level

12. Minimum Free Board required in a bridge is
a) **1 m***
b) 1.20 m
c) 600 mm
d) 300 mm

13. Vertical Clearance (VC) in water way bridges is the level difference between
a) HFL and Formation level
b) Bed level and bottom of superstructure
c) **HFL and bottom of superstructure***
d) Rail level and Formation level

14. Depth of construction in a girder bridge means the depth from
a) RL to HFL
b) **RL to top of bed block ***
c) RL to bottom of bed block
d) RL to Bed level

15. Skew of a bridge is the angle between
a) C.L. of water course to C.L. of track
b) C.L. of water course to C.L. of pier
c) **C.L. of water course/road to normal (perpendicular) of C.L. of track***
d) C.L. of abutment to C.L. of pier

16. Angle of crossing of a bridge is the angle between

a) **C.L. of water course/road to C.L. of track***
b) C.L. of water course to C.L. of pier
c) C.L. of water course to normal (perpendicular) of C.L. of track
d) C.L. of abutment to C.L. of pier

17. In a single span bridge, the clear span is the distance between
a) Centres of Abutments
b) **Inner faces of Abutments***
c) Outer faces of Abutments
d) Width of Abutment

18. Sub structure of a bridge does not include
a) Abutment
b) **Girder/Slab***
c) Piers
d) Wing and Return walls

19. Super structure of a bridge includes
a) **Girder/Slab***
b) Abutment
c) Piers
d) Bed block

20. Bearings are provided in bridges to transfer the load to

a) Super structure
b) Track
c) Embankment
d) **Sub structure***

21. Wing walls and return walls are provided to retain
a) **earth on approaches**
b) ballast
c) track on approaches
d) none

22. In a temporary signaling arrangements for a bridge work in BG section, speed board shall be placed in advance of 30 m from the
a) C.L. of the bridge
b) Termination Board
c) **Start of the bridge/work spot***
d) Caution Board

23. In shallow type girders, the rail level shall be
    a) **25mm above the top flange of girder***
    b) near the bottom of the girder
    c) near the middle of the girder
    d) below the girder

24. The load transferred from rails to bottom flanges is in
    a) deck type girder
    b) **through type girder***
    c) semi-through type girder
    d) plate girder

25. The load transferred from rails to web of girders is in
    a) deck type girder
    b) through type girder
    c) **semi-through type girder***
    d) plate girder

26. The medium to transfer loads from superstructure to substructure is called
    a) Abutment
    b) Bed block
    c) **Bearing**
    d) Pier

27. Temporary staging for casting PSC Box Girder for a ROB over the Railway span shall be removed
    a) after hardening of concrete
    b) before hardening of concrete
    c) during concreting
    d) **after stressing the cables**.*

28. The horizontal clearance of edge of foot over bridge structure from face of platform is
    a) 6525 mm
    b) **3660 mm***
    c) 5330 mm
    d) 5300 mm

29. The vertical clearance of bottom most foot over bridge structure above rail level is
    a) **6525 mm***

b) 3660 mm
c) 5330 mm
d) 6250 mm

30. The minimum vertical clearance of foot over bridge gangway is
a) 2100 mm
b) 3660 mm
c) 6525 mm
d) **2710** mm

31. The horizontal clearance between guard rail and running rail in BG track is
a) 25 mm
b) **250 ± 50 mm***
c) 75 mm
d) 200 ± 50 mm

32. The level of guard rail in bridges shall not be lower than that of running rail by more than
a) **25 mm***
b) 55 mm
c) 75 mm
d) 65 mm

33. The guard rail is provided in bridges to
a) prevent derailment in bridges
b) prevent falling of vehicles during derailment*
c) have good riding
d) guide the wheels

34. Steel channel sleepers are provided in bridges with superstructure of
a) PSC slab
b) PSC girder
c) **Steel girder***
d) RCC Box

35.Minimum earth cushion required over RCC Box is
a) 300 mm
b) 600 mm
c) **0***
d) 1000 mm

36.The minimum vertical clearance above R.L. to bottom of ROB near the yard shall be

a) **6525 mm***
b) 5870 mm
c) 2360 mm
d) 6250 mm

37. The minimum vertical clearance in RUB in rural area shall be
a) 5870 mm
b) 6525 mm
c) **5000 mm***
d) 5500 mm

38. The minimum vertical clearance in RUB in urban area shall be
a) 5870 mm
b) 6525 mm
c) 5000 mm
d) **5500 mm***

39. The embankment width in approach of the bridge shall be
a) 5870 mm
b) 6525 mm
c) **6850 mm***
d) 6000 mm

40. The height gauge need to be provided in
a) ROB
b) **RUB***
c) FOB
d) Fly Over

41. The CRS sanction is required in the ROB project for construction of
a) Approach spans
b) Laying road
c) **Railway spans**
d) none

42. The temporary girders are generally required for the bridge works
a) **on traffic condition***
b) under mega block
c) in cut and open method
d) in new route

43. The diameter of hole for 20 dia rivet shall be
    a) 23 mm
    b) 18 mm
    c) **21.5 mm***
    d) 22 mm

44. IS code for Steel structures is
    a) IS 236
    b) IS 226
    c) IS 456
    d) **IS 800***

45. Pipe culvert is a/an
    a) major bridge
    b) **minor bridge***
    c) unimportant bridge
    d) important bridge

46. One of the following works does not require CRS sanction
    a) Regirdering/ Rebuilding
    b) Erection of new FOB
    c) **Erection of platform shelter***
    d) Pipe line crossing

47. Facia boards of platform shelters shall have a minimum horizontal clearance of ……. from C.L. of track at a minimum height of 4.61m above RL.
    a) 2360 mm
    b) 3660 mm
    c) 3000 mm
    d) **1600 mm***

48. At FOBs in electrified section the electrocution by live OHE wires is prevented by providing
    a) smoke gaurds
    b) Roofing
    c) Bottom lateral bracings
    d) **protective screens***

49. One of the following is a shallow foundation
    a) Pile foundation
    b) **Raft foundation***

c) Under reamed pile foundation
d) Well foundation

50. Minimum vertical clearance (VC) for a slab/ girder bridges with discharge of 0-30 cumecs is
    a) 300 mm
    b) 1500 mm
    c) 1800 mm
    d) **600 mm***

51. Maximum vertical clearance (VC) for a slab/ girder bridges with discharge above 3000 cumecs is
    a) 300 mm
    b) 1500 mm
    c) **1800 mm***
    d) 600 mm

52. For end bearing piles, the minimum spacing of piles of diameter 'd' shall be
    a) 3d
    b) 2d
    c) **2.5d***
    d) 5d

53.

54. Weep holes are provided in
    a) piers
    b) trestle piers
    c) foundation
    d) **abutments***

55. The pressure on soil worked out shall be …… the SBC of the soil.
    a) more than
    b) equal to
    c) not equal to
    d) **less than***

56. …….. soil has the least SBC of the soil.
    a) Hard moorum
    b) Stiff clay
    c) **Black cotton soil***
    d) Soft rock

57. The minimum edge distance for rivets of diameter 'd' in steel plates shall be
    a) 2 x d

b) 3 x d
c) **1.5 x d***
d) 2.5 x d

58. The minimum pitch of rivets of diameter 'd' in steel plates shall be
a) 2 x d
b) 3 x d
c) 1.75 x d
d) **2.5 x d***

58) Rail Cluster, as temporary arrangement can be used upto a span of
a) **3.66m***
b) 6.1m
c) 12.2m
d) 18.3 m

59) Speed restriction required for using CC cribs as temporary arrangement is
a) **20 kmph***
b) 40 kmph
c) 35 kmph
d) 30 kmph

60) The minimum cushion specified over an arch bridge is --
a) 0.5m
b) 0.9m
c) **1.0m***
d) 1.2 m

61) In case of water crossing danger level in bridges
a) speed restriction be imposed
b) traffic be suspended till water recedes
c) **traffic be suspended till a responsible person inspects the site and declares it safe for running traffic***
d) bridge watchman is to be posted

62) From fatigue considerations, bridges are designed for --
a) 2 million cycles
b) 1 million cycle
c) **10 million cycles***
d) 3 million cycles

63) Structural steel for railway loading above 0^{o}C temperature conforms to --

a) IS 2062 grade A
b) **IS 2062 grade B***
c) IS 2062 grade C
d) None of the above

64) Bearings for plate girders are --
a) roller bearing
b) sliding bearings
c) **centralised articulated bearings***
d) None of the above

65) Bentonite is used in pile driving --
a) to facilitate pile driving
b) to enable proper pile concreting
c) **to stabilize the bore hole walls***
d) None of the above

66) In a routine pile load test the test load is --
a) 1.25 times the design load
b) **1.5 times the design load***
c) 1.75 times the design load
d) 2 times the design load

67) In the eight digit code given in the rating system the first digit is called --
a) URN
b) **ORN***
c) CRN
d) None of the above

68) An important bridge is one which has total waterway of equal to or more than
a) **1000 sq.metres.***
b) 800 sq. metres
c) 500 sq. metres
d) 300 sq. metres

69) Well foundation may be of the following type
a) circular
b) D type
c) Double D type
d) **Any of the above***

70) Maximum tilt specified during sinking of well foundation is
   a) 1 in 10
   b) 1 in 50
   c) **1 in 100***
   d) 1 in 150

71) Foundation and substructure of the bridge should be inspected by SE/P.Way/Works
   a) Once a year any time
   b) **Once a year before monsoon***
   c) Once a year after monsoon
   d) Once in 3 months

72) For a major bridge, the URN would comprise of
   a) single digit
   b)**eight digits***
   c) six digits
   d) four digits

73) Speed restrictions is suggested for distressed bridges on Group I
   a) **upto maximum of 15 kmph***
   b) 25 kmph
   c) 50 kmph
   d) 60 kmph

74) Speed restrictions is suggested for distressed bridges on Group II
   a) upto maximum of 15 kmph
   b) **25 kmph to 50 kmph***
   c) 75 kmph
   d) 60 kmph

75) Settlement of foundations or Tilted piers and abutments will be considered as distressed bridge as
   a) **Group I***
   b) Group II
   c) Both of the above
   d) None of the above

76) Cracks in return walls/ wing walls or Slight tilting/ bulging of abutments are the signs of distressed bridge under
   a) Group I
   b) **Group II***

c) Both of the above
d) None of the above

77) In arch bridges, Cracks/ lean/ bulge in parapet walls, Bulging or separation of spandrel from arch barrel, are the signs of distressed bridge under
a) Group I
b) **Group II***
c) Both of the above
d) None of the above

78) Special inspection of distressed bridges shall be carried out by Asst. Engineer is
a) Once in three months
b) **Once in two months***
c) Once in a month
d) Once in six months

79) Special inspection of distressed bridges Group II shall be carried out by Inspector (Concerned) is
a) **Once in three months***
b) Once in two months
c) Once in a month
d) Once in six months

80) Temporary arrangements for rebuilding of Railway bridges can be executed by providing
a) Temporary girder
b) Temporary diversion
c) **Any of the above***
d) None of the above

81) Callendar Hamilton spans are normally available maximum up to
a) 60 ft.
b) 100 ft.
c) 150 ft.
d) **200 ft.***

82) In areas where there is no severe corrosion Finishing coat will be
a) Two coats of aluminium paint to IS : 2339
b) One coat of zinc chromate priming to IS : 104
c) **Two cover coats of red oxide paint to IS :123***

d) One coat of zinc chrome - red oxide priming to IS : 2074

83) In areas where there is severe corrosion Finishing coat will be
a) **Two coats of aluminium paint to IS : 2339***
b) One coat of zinc chromate priming to IS : 104
e) Two cover coats of red oxide paint to IS :123
f) One coat of zinc chrome - red oxide priming to IS : 2074

84) Entire steel work of girder bridge should be painted at regular interval; known as
a) patch painting
b) **periodical through painting***
c) Any of the above
d) None of the above

85) When as small area of girder bridge should be painted when requiring immediate painting; known as
a) **patch painting***
b) periodical through painting
c) Any of the above
d) None of the above

86) Elcometer is used to measure the ……..
a) cross level
b) Gauge
c) **Thickness of paint***
d) All the above

87) Repairing by cement pressure grouting can be adopted in case of
a) Honey comb concrete
b) Hollow masonry, Dormant cracks
c) Deep leached mortar joints
d) **all the above***

88) Cement pressure grouting is suitable for
a) Very fine crack
b) weathered concrete
c) Active crack where cause of crack is known and remedial action has been taken*
d) Crushed masonry

89) Epoxy pressure grouting is suitable for
a) wide and deep crack
b) fine and deep crack
c) **fine but not very deep crack***

d) None of the above

90) In cement pressure grouting, pressure is kept as
a) **2 to 4 kg./sqcm.***
b) 3 to 6 kg./sqcm.
c) 3 to 10 kg./sqcm.
d) 3.5 to 7 kg./sqcm.

91) In Epoxy pressure grouting, pressure is kept as
a) 2 to 4 kg./sqcm.
b) 3 to 6 kg./sqcm.
c) 3 to 10 kg./sqcm.
d) **3.5 to 7 kg./sqcm.***

92) In cement pressure grouting, water cement ratio is kept as
a) **0.4 to 0.5***
b) 0.3 to 0.4
c) 0.25 to 0.35
d) 0.35 to 0.5

93) In guniting/ shotcreting , water cement ratio is kept as
a) 0.4 to 0.5
b) 0.3 to 0.4
c) 0.25 to 0.35
d) **0.35 to 0.5***

94) In cement pressure grouting holes should be drilled at spacing in both direction at
a) 150 – 500 mm
b) 450 mm
c) **500 – 750 mm***
d) 1000 mm

95) In cement pressure grouting G.I pipes of diameter …… and ……length, should be fixed in drilled holes
a) **12 to 20 mm, 200 mm***
b) 12 to 20 mm, 300 mm
c) 12 to 25 mm, 500 mm
d) 20 to 25 mm, 300 mm

96) Paint is the mixture of …….
   a) **Binder, Pigment & Solvent***
   b) Binder & Pigment
   c) Binder & Solvent
   d) None of the above

97) CC Crib stands for
   a) Cement concrete
   b) Criss crossing
   c) **Christ church***
   d) None of the above

98) While painting with red oxide paint, a little quantity of ……..shall be added to the paint while doing the first coat to distinguish it from the second coat
   a) little blue paint
   b) **lamp black***
   c) red paint
   d) green paint

99) While painting with Aluminium paint, a little quantity of ……..shall be added to the paint while doing the first coat to distinguish it from the second coat
   a) **little blue paint***
   b) lamp black
   c) red paint
   d) green paint

100) Shelf life of Paint Red Oxide Ready mixed (IS : 123)
   a) 4 month
   b) **1 year***
   c) 6 month
   d) None of the above

101) Shelf life of Paint aluminium when paste and oil are mixed
   a) **Oneday***
   b) 1 year
   c) 6 month
   d) None of the above

102) The maximum time lag between surface preparation and the application of primer coat shall not exceed
   a) 12 hours
   b) **24 hours***

c) 48 hours
d) 36 hours

103) The maximum time lag between the primer coat and the Ist finishing coat shall not exceed

a) 3 days
b) **7 days***
c) 4 days
d) 12 days

104) For railway bridges with spans in excess of 30.5m, generally provided with

a) deck type girders
b) **open web through girders***
c) semi through girders
d) shallow type girders

105) Mostly long span rail-cum road bridges are provided with

a) rocker & roller bearings
b) **segmental roller with oil bath***
c) Sliding bearings
d) centralised bearings

106) The advantages of electrometric bearings are

a) Permits movement of the structure in all directions
b) Serves as a shock absorber due to anti-vibration properties of elestomeric
c) better dispersion of longitudinal forces to the approaches
d) **All of the above***

107) Length of guard rails to be bent so as to be brought together at the middle of the track.(L2)

a) 3200 mm
b) **4875 mm***
c) 3655 mm
d) None of the above

108) The size of bridge timber required for the standard spans up to 18.3 m

a) **250 x 150mm***.
b) 250 x 180mm.
c) 250 x 240mm
d) 250 x 200mm

109) Rail joints should be avoided within ……of a bridge abutment.
a) 6 m
b) **3 m***
c) 4 m
d) 10 m

110) In case of LWR track, full ballast section as specified in LWR Manual should be provided up to …….. from the bridge abutment.
a) 200 m
b) 50 m
c) 300 m
d) **100 m***

111) Clear distance between consecutive sleepers not to exceed on bridges in BG is
a) **450 mm***
b) 600 mm
c) 510 mm
d) 500 mm

113) In Girder and Slab Bridges Danger level should be marked below bottom of girders/slabs for water way is > 6.10 < 12.2 m
a) 300 mm
b) 600 mm
c) **450 mm***
d) 500 mm

114) In Girder and Slab Bridges Danger level should be marked below bottom of girders/slabs for water way is > 12.20 < 30.5 m
a) 300 mm
b) **600 mm***
c) 500 mm
d) 450 mm

115) For Box Culverts Danger level is to be taken as
a) at the top of slab
b)one third height below bottom of slab
c) **at the bottom of slab***
d) None of the above

116) The danger level should be marked with a bright red band …… wide centrally over a white band …… wide for a length of……

a) **5 cm, 10 cm, 60 cms***
b) 10 cm, 20 cm, 60 cm
c) 15 cm, 30 mm, 60 cm
d) None of the above

117) Renewal of slack rivets should be taken up in steel girder bridges:
a) All rivets which are hand loose or which have lost 50% of their head by corrosion.
b) All hammer loose rivets where corrosion has set in between the head and the plate.
c) In end stiffeners when the percentage of hammer loose rivets is >30%
d) All the above*

118) In flange splices when the number of hammer and hand loose rivets is 30% or more of the total rivets on any side of the splice location,
a) Need no be renewed
b) wait for 100% loose rivets
c) **all the rivets should be renewed.***
d) None of the above

119) Corrosion in Steel girder bridges may be prevented by :
a) Protective coatings by painting
b) Metallising
c) Use of epoxy based paints
d) **All the above***

120) Surface preparation for Metallising the abrasives used for final cleaning is
a) Chilled iron grit G.24, as defined in BS : 2451
b) Washed salt free angular silica sand of mesh size 12 to 30 with a minimum of 40% retained on a 20 mesh
c) **either (a) or (b) ***
d) d) neither (a) or (b)

121) Minimum length of steel channel sleeper in BG
a) 2500mm
b) **2440mm***
c) 2400mm
d) 2600mm

122) Length of bridge timber in BG
a) outer to outer of girder plus 305mm

b) 2440mm
c) whichever is more in a) & b)*
d) whichever is less in a) & b)

123) Periodicity of Under water inspection
a) Once in a year
b) Once in two years*
c) Whenever high flood occurs
d) Along with detailed inspection of SE/Br

128) Definition of major bridge
a) Single span of 12m & above
b) Total linear water way more than 18m
c) Both a) & b)*
d) None of the above

124) Definition of minor bridge
e) Single span less than 12m
f) Total linear water way less than 18m
g) Both a) & b)*
h) None of the above

125) Permitted wind velocity for running of trains on the bridge
a) 72 km/h*
b) 58 km/h
c) 64 km/h
d) No limits

126) Periodicity of recording of camber in PSC girders
a) Once in a year*
b) Once in two years
c) Once in three years
d) During the detailed inspection of SE/Br.

127) Weight of steel crib 75x75x10mm angles
a) 200kg
b) 187.2kg*
c) 210kg
d) 185kg

128) Conventional method of camber recording
a) Piano wire with counter weight*
b) By using leveling instrument
c) Offset method
d) None of the above

129) Flood level gauge to be marked in

a) All important bridges*
b) All major bridges
c) All minor & major bridges
d) All bridges

130) Velocity of water can be measured by

a) Anemo meter
b) Elco meter
c) Current meter*
d) Thermo meter

131) Flood level gauge to be marked

a) commencing from bed level to top
b) commencing from bottom of girder towards bed level*
c) commencing from Rail level
d) commencing from Danger level

132) Shallow type girder can be used in

a) ROBs
b) RUBs*
c) FOBs
d) None of the above

133) Under slung girders can be used in

a) Plain section
b) Ghat section*
c) Aquaduct
d) Viaduct

134) Spacing of Trolley refuges

a) Every 100m
b) If span is more than 100m, on each pier
c) Ballasted deck bridges – every 50m
d) All the above*

135) Testing of welds by

a) Dye penetrant test
b) Magnetic particle inspection
c) Radiographic inspection
d) All the above*

136) Rebound hammer is used for

a) To find the strength of concrete*

b) To form rivet heads
c) To break the concrete structures
d) None of the above

137) Ultrasonic Pulse Velocity test is meant for
a) Identifying the integrity of concrete*
b) Finding the strength of concrete
c) To know the crack in steel structure
d) To know the flaw in rail

138) The clear distance between consecutive sleepers laid over unballasted bridge on BG should not exceed
a)300mm
b)400mm
c)450mm*
d)550mm

139) The total number of bridges on I.R.is about
a)1 Lac
b)1**.25 Lacs***
c)1.50 Lacs
d)2 Lacs

140) Which para of Engineering code deals with cost sharing of ROB/RUBs
a) 1716
b) 1814
c) **1816***
d) 1819

141) What is the carriageway of two lane ROB on National Highway
a)10.00m
b)8.5
c)**9.50***
d)10.50

142) The depth of 19.81 mlong service girder is about……
a)1.67 m
b)**1.16 m***
c)0.95 m
d)1.52 m

143) BGML loading stands for

a)Broad gauge mineral loading
b) Broad gauge modified loading
c)**Broad gauge mainline loading***
d) None of above

144) MBG loading stands for
a)MineralBroad gauge loading
b**) Modified Broad gauge loading***
c)MediumBroad gauge loading
d) None of above

145) RBG loading stands for
a)**Revised Broad gauge loading**
b) Rolling Broad gauge loading
c)Railway Broad gauge loading
d) None of above

146) BGML loading caters for maaaaximum axle load of…….tonnes for locomotive with trailing load of……tonnes/metre.
a)**22.9,7.67***
b)22.5,7.67
c)25,7.67
d)None of above

147 RBG loading caters for maaaaximum axle load of…….tones for locomotive with trailing loadof…… tonnes/metre of track with maximum axle load of…….tonnes for wagons
a)22.9,7.67,25
b)**22.5,7.67,22.9***
c)25,7.67,22.9,
d)None of above

148) Piano wire is used for measuring the-
a) Distortion
b)Camber in PSC girder
c)**Both a & b***
d)None of above

149) When the railway crosses a deep vally without perinial water,it is called…….
a)**Aqueduct ***
b)Cause way
c)Via-duct
d)River crossing

150) What is the clear distance between two consecutive bridge Timbers or Girder bridge?

(a) 450 mm

(b) 510 mm*

(c) 500 mm

(d) 520 mm

151) What is the clear distance between two consecutive steel channel sleepers on Girder bridges?

(a) 450 mm*

(b) 510 mm

(c) 500 mm

(d) 460 mm

152) For painting, the unit of rate is per

a) Sqm

b) cum

c) 10sqm *

d) 10cum

153) When proposed depth of construction of a bridge is more than the existing depth of construction in a bridge work, the existing rail level requires

a) Lowering

b) **Lifting***

c) Slewing

d) None

154) Which cement should not be used for bridge slabs ro RCC frames

a) OPC

b) Portland Pozzolana cement *

c) Portland furnace slag cement

d) Rapid hardening cement

155) Standard bag of cement in …… kg

a) 52 kg

b) 30.5kg

c) 10.7kg

d) 50 kg*

156) The concrete under water minimum grade of cement recommended by IS code

a) M 10

b) M 15
c) M 20*
d) M 25

157) What is DPC?
a) Damp proof course *
b) weathering course
c) Treatment the foundation
d) Treatment over the roof

158) Elastomeric bearings are made of natural or synthetic rubber of shore hardness of approximately.
a) 30 to 40
b) **50 to 70***
c) 40 to 50
d) 60 to 70

159 Investigation for important bridges may be carried out in which stage
a) Technical feasibility study (reconnaissance survey)
b) Techno-economic feasibility study (preliminary engineering survey)
c) Detailed survey and project report stage (final location survey)
d) All the above *

160) At locations where access to the new bridge construction is available by rail, the launching of girders upto 18.3 m which method is ideal.
a) slew in slew out method b) gantry method
c) **Launching of girders with the help of a BFR***:
d) Pantoon method

161) The normal procedure for promotion should be by ……..Qualified men will be entitled to promotion by seniority within their own groups.
a) **Trade test*** b) Interview
c) Recommendation d) Random selection

162) Payment to bridge staff on the section will be made by the pay clerk in the presence of
a) SSE/SE/JE/ P.Way b) **SSE/SE/JE/ Br.***
c) SSE/SE/JE/ Works d) Office clerk

163) If the SSE/SE/JE/ Br. working in the section is not readily available, another SSE/SE/JE may be authorised by …….. to witness payment on the section.

a) DEN
b) SSE/SE/JE/
c) **AEN (Bridges)***
d) Office clerk

164) The Indian Railways Way and Works Manual was first published in the year 1954.

a) 1956
b) 1999
c) **1954***
d) 1998

165) Indian Railway Bridge manual established in

a) **1998***
b) 1999
c) 1989
d) 1954

166) While finalizing the IRBM, which of the following have been taken into account.

a) Indian RailwaysGeneral Rules 1976
b) Indian Railways Code for Engineering Department 1993
c) Bridge Rules and Substructure
d) **All the above***

167) A bridge having super structure with "Single or duplicate girders with cross sleepers on top flanges" is classified as

a) RSJ girder bridge
b) Cross Girder
c) **Deck plate girder***
d) Open web girder

Fill up the blanks with suitable words.

1. Super structure including bearings of all steel Girder of span 12.20m and above is to be inspected by …**SE./Br**….once in 5 years
2. A bridge foundation having less then 2M depth below bed level in case of arch bridges and 1.2M depth below bed level in case of other bridges is termed as …**Shallow foundation**..
3. Paint Zinc chromate primer confirms to IS …**104**….
4. Paint Zinc chromate Red oxide primer confirms to IS …**2074**….

5. Paint Red Oxide confirms to IS …**123**….
6. Paint Aluminium confirms to IS …**2339**….
7. Abbreviation of DFT ……**Dry Film Thickness**……
8. Metallising is the process of spraying of …**Zinc**.. or ..**Aluminium**.. on the surface prepared girder.
9. Greasing of bearings of Steel girder bridges is done once in -…**Three**.. years.
10. Abbreviation of PTFE is……**Poly Tetra Fluoro Ethylene** …
11. Trolley refuges are provided at every …**100** m on long bridges
12. Girders which are overstressed and kept under observation are to be inspected once in …**a**… year by SE/Br.
13. Abbreviation of NRS …**Numerical Rating System**…
14. Abbreviation of CRN …**Conditional Rating Number**…
15. Abbreviation of ORN …**Overall Rating Number**
16. Abbreviation of URN … **Unique Rating Number**
17. Abbreviation of RUB …**Road Under Bridge**…
18. Abbreviation of ROB … **Road Over Bridge**
19. Abbreviation of FOB … **Foot Over Bridge**
20. Abbreviation of HFL …**High Flood Level**…
21. Stock indent form No is … **S1313**…….
22. Disposal of Unserviceable materials is under Form No. **S.1539…**
23. Abbreviation of RL-BF is …**Depth from rail level to bottom of foundation**
24. Abbreviation WL is **Well Foundation**
25. Abbreviation of ON is …..**Open Foundation**
26. Abbreviation of CCN is …**Cement Concrete** …
27. Abbreviation of BF is ……**Bottom of Foundation**……
28. Abbreviation of TF is ……**Top of Foundation**
29. Abbreviation of S is ……**Sand**……
30. Abbreviation of C is ……**Clay**……
31. Abbreviation of BC is ……**Black cotton soil**……..
32. PSC is the abbreviation of….**Prestressed Concrete**…..
33. The minimum thickness of Metallising is **115 micron**
34. The average thickness of Metallising is **150micron**
35. The weight of rivet testing hammer is **110 gm**
36. The URN of minor bridge shall be represented by its **ORN**

37. The abutment the weep holes should be provided **one metre** horizontal and **one metre** in vertical in a staggered manner
38. Painting during night and early morning avoided because of **dew**
39. In important bridge the total linear waterway is **300 m or the total water way is 1000 sq.m**.
40. In case of underwater independency diver will be employed in depth beyond **10 m** should be medically checked
41. Normally centre to centre spacing of pile should not be more than **4d** where d is the dia of pile shaft
42. Renewal of loose rivet shall be taken up in end bearing stiffener when the % of hammer loose rivet is **30%**
43. In case of distressed bridge category II, ADEN shall inspect the bridge **once in 6 months**
44. Greasing of bearing shall be done with **grease graphite**
45. In case of bridge is distressed category I then special restriction of **15 kmph** shall be imposed
46. The form number used for preparation of indent of stock item is **S1313**
47. The form used for preparation of Indent on non – stock item is **S 1302**
48. In case of transfer of material from one custodian to another through is **ST 47** challan
49. The wind velocity is measured using **Anemometer**
50. As per GCC Engineer shall mean **DEN / XEN**

State whether true of false

1. Phosphor Bronze bearing need not be greased. **True**
2. Primer coat protects the steel from weather. **False**
3. Clear span is more than the effective span **False**
4. Danger level is always above HFL **False**
5. Acetelyne gas cylinders are always kept vertical **True**
6. A speed restriction of 15 kmph can be imposed in a Neutral section **False**
7. A bridge of single span of 12.1 m is called a minor bridge **False**
8. Camber is measured at the ends of a girder **False**
9. Temporary girders are used for normal sectional speed. **False**
10. 4 SWG electrode is thicker than 6 SWG electrodes. **True**
11. Red lead paint is not poisonous. **False**
12. Wire rope pulleys are interchangeable with manilla rope pulleys. **False**

b) Duty hut should be on the inside of the curve.
c) Duty hut should be on the outside of the curve.*
d) Duty hut can be provided on any side of the curve.

30. Minimum depth of space for wheel flange from the rail level on BG track is
a) 44 mm
b) 48 mm
c) 38 mm
d) 51mm

Soil mechanics

1. Which of the statements with regard to formation is correct

(1) One of the Functions of the formation is to facilitate drainage
(2) Width of bank for double railway line is 12.155 meters
(3) Width of cutting for double railway track is 11.750 meters
(4) Centre to centre of formation for double line is 4.725 meters
(5) Width of formation is different for concrete sleeper track and other than concrete sleeper track

a) 2, 3, 5
b) 3, 4, 5*
c) 2, 3, 4
d) 2, 4, 5

2. Centre to Centre spacing of formation for double railway line for Broad Gauge is
a) 1676 mm
b) 4725 mm
c) 4265mm
d) 5300 mm*

3. Earthwork in embankment for railway with manual compaction should be done in layers not exceeding----------
a) 15 centimeter
b) 20 centimeters
c) 25 centimeters
d) 30 centimeters*

4. To provide inverted filter to improve the bearing capacity of soil the liquid limit of blanketing material should not be greater than
a) 5
b) 20
c) 27
d) 35*

5. To provide inverted filter to improve the hearing capacity of soil the plasticity index of blanketing material should not be greater than
a) 15*
b) 20
c) 27
d) 35

6. The bottom of side drains should be below the formation level by at least----------
a) 45 cm
b)30 cm*
c) 15 cm
d) 60 cm

7. Cross slope of the formation to have good drainage of Ballast section is
a) 1 in 40*
b) 1 in 50
c) 1 in 30
d) 1 in 20

8. The side slope of formation in embankment is
a) 2 : 1*
b) 1: 1
c) 1:5
d) 1:3

9. The side slope of formation in embankment /cutting depends on
a) Shearing strength of soil and its angle of repose*
b) Angle of repose
c) Bearing capacity of the soil
d) Optimum moisture content of the soil

10. The recommended width of Double line cutting formation for B G is
a) 10210 mm
b) 10 975 mm
c) 11555 mm*
d) 10 820 mm

11. The recommended width of Single line formation cutting for BG excluding drain is
a) 6250 mm*
b) 6850mm
c) 54 90mm
d) 6100mm

12. In case of compaction of soil by sheep foot roller maximum thickness of layer should not exceed buy more than ---------- centimeter of length of their teeth
a) 5 centimeter*

b) 4 centimeter
c) 3 centimeter
d) 2 centimeter

13. The catch water drains are provided in the
a) Formation in the embankment
b) Formation in cutting*
c) Zero fills formation
d) Steep gradient

14. Cross sectional area of catch water drain should not be more than
a) 0 .75 square meter*
b) 0. 90 square meter
c) 0. 80 square meter
d). 50 square meter

15. Density of each compacted layer should be ascertained by taking soil samples on either side of Central Line at
a) 5 meter interval
b) 10 meter interval*
c) 12 meter interval
d) 15 meter internal

16. For laying a Railway track the prepared surface ready to receive the ballast is called
a) Sub ballast
b) Formation*
c) Blanket
d) Cushion

17. The height of formation depends upon the
a) Ground contours and the gradient adopted*
b) Ground contour only
c) Gradient adopted only
d) Rainfall intensity over the year

18. The dry density of soil is
a) Always greater than the saturated density
b) Weight of soil solids per unit of total volume prior to drying*
c) Total weight of soil solids per unit of its total volume
d) Total weight of soil mass per unit of its total volume

19. The ratio of volume of water present in a given soil sample to the total volume of voids in it is known as
a) Percentage of air voids
b) Degree of saturation *
c) Void ratio

d) Porosity

20. The ratio of volume of air voids to the volume of voids is known as
a) Percentage of air voids
b) Porosity
c) Degree of saturation
d) Air content*

21. At the liquid limit
a) The soil just begins to crumble when rolled into a thread
b) The shearing strength against flowing is negligible
c) The shearing strength against flowing is a small but definite*
d) The soil will not get fully saturated

22. The property of soil which allows it to be deformed rapidly, without rupture, without elastic rebound and without volume change is known as
a) Porosity
b) Plasticity*
c) Stiffness
d) Plastic limit

23. The minimum water content in soil at which the soil just begins to crumble when rolled into threads 3 mm in diameter is known as
a) Plastic limit
b) Liquid limit
c) Consistency limit
d) Shrinkage limit

24. The minimum water content at which a reduction in water content will not cause a decrease in the volume of a soil mass is known as
a) Plastic limit
b) Shrinkage limit*
c) Liquid limit
d) Consistency limit

25. The numerical difference between the liquid limit and plastic limit of a soil is known as
a) Liquidity index
b) Plasticity index *
c) Shrinkage index
d) Consistency index

26. In India soils are classified by
a) MIT classification
b) Unified soil classification system*

c) International classification system
d) Particle size classification

27. The consistency index of soil is
a) (Natural water content - liquid limit) / plasticity index
b) (Natural water content - liquid limit)/ liquidity index
c) (Liquid limit - natural water content)/ consistency index
d) (Liquid limit - natural water content)/plasticity index*

28. The property of a soil due to which water percolates through it is known as
a) Porosity
b) Permeability*
c) Moisture content
d) Capillarity

29. Permeability of soil varies
a) Inversely as square of grain size
b) Inversely as grain size
c) Directly as grain size
d) Square of grain size*

30. Quicksand is
a) Moist sand containing a small percentage of clay
b) Is a condition which generally occurs in coarse sands
c) Is a condition in which cohesive properties of soil increase rapidly
d) **Is a condition in which a cohesion less soil loses its strength because of upward flow of water***

31. Piping in a soil mass is
a) **Erosion of subsoil by the high velocities of flow of water through it when such velocities exceed a certain limit***
b) Caused due to very low exit gradient
c) Due to continuous passage of water through a series of well connected pores
d) Due to loss of the strength of cohesion less soil because of upward flow of of water

32. The maximum dry density to which a soil may be compacted to depends upon
a) Soil water content *
b) The process of compaction
c) The voids ratio
d) Is independent of the type of soil

33. A saturated clay is to be tested for shearing strength. Which test should be recommended?

a) Direct shear test
b) Triaxial shear test
c) Vane shear test
d) Unconfined compression*

34. A temporary enclosure in a river or Lake built around a working area for the purpose of excluding water during construction is known
a) Caisson
b) Augur
c) Cofferdam *
d) Sheet pile wall

35. The maximum pressure which the soil can carry safely without the risk of shear failure is called
a) Safe bearing capacity
b) Ultimate bearing capacity*
c) Allowable bearing capacity
d) Shear bearing capacity

36. Black cotton soils are
a**) Heavy clay soils varying from clay to Loam, with clay content of 40 to 50% formed by decomposition of rocks by long continued weathering***
b) Compacted and laminated clays
c) Soils containing carbon of coal underneath
d) Dark brown earthy materials formed due to partial or complete decomposition of vegetable matter

37. The high density of soil placed in a fill is desired in order to
a) Increase its shear resistance*
b) Reduce its shear resistance
c) Promote future settlements
d) Decrease percolation through the fill.

38. Plasticity index represents the range of water content between
a) Liquid and plastic limit *
b) Plastic limit and semi solid limit
c) Semisolid Limit and liquid limit
d) Liquid limit and solid limit.

39. For yard drainage Pucca drains should be designed for the velocity of
a) 0 05 to 1 meter per second
b) 1 to 1.5 meter per second
c) 1.5 to 2 meter per second
d) 2 to 2.5 meter per second

40. Formation prepared by depositing Soil over the existing ground level is known as
a) Formation in cutting
b) Formation in embankment
c) Zero fills formation
d) Natural formation

Building materials

1. Stone generally preferred for railway ballast is

a) Sandstone
b) Dolomite
c) Marble
d) Basalt or trap granite*

2. An artificial stone made from pieces of white marble, white cement and other coloring agents, generally used for floor and facing walls is known as
a) Topaz
b) Marble
c) Terrazzo*
d) Gneiss

3. Which one of the following impurity is not desirable in the soil used for brick formation
a) Alkali
b) Kankar
c) Iron oxide
d) Alkali & Kankar*

4. The Rocks formed from molten lava are called
a) Sedimentary rocks
b) Igneous rocks*
c) Metamorphic rock
d) Plutonic rock

5. Granite is obtained from
a) Igneous rocks*
b) Sedimentary rocks
c) Metamorphic rocks
d) Plutonic rock

6. Marble is obtained from
a) Igneous rocks
b) Sedimentary rocks

c) Metamorphic rocks*
d) Plutonic rock

7. Limestone is obtained from
a) Igneous rocks
b) Sedimentary rocks*
c) Metamorphic rocks
d) Plutonic rock

8. The bulking of sand with 2% moisture content is about
a) 5%
b) 10%
c) 15%*
d) 20%

9. A good building stone should not absorb water more than
a) 5%*
b) 10%
c) 15%
d) 20%

10. The standard size of modular bricks is---------- centimeters
a) 18x 8 x8
b) 19x 9x 9
c) 20x 10 x10
d) 21x 11 x11

11. The Frog of a brick is normally made on its
a) Top face*
b) Bottom face
c) Longer face
d) Shorter side

12. The minimum compressive strength of first class brick should be
a) 75 kg per centimeter square
b) 90 kg per centimeter square
c) 100 kg per centimeter square*
d) 120 kg per centimeter square

13. If first class Brick is immersed in water for 24 hours it should not absorb water by weight more than
a) 10%
b) 15%
c) 20% *
d) 25%

14. A pug mill is used for
    a) Softening brick earth
    b) Moulding brick earth
    c) Tempering brick earth*
    d) Compacting brick earth

15. Minimum crushing strength of the bricks is
    a) 35 kg/cm^2
    b) 55 kg/m^2
    c) 70 kg/m^2
    d) 105 kg/m^2

16. Normal size of brick used in India is
    a) 22 x 11.2 x 7 cm*
    b) 25 x 16 x 8 cm
    c) 19 x 12 x 9 cm
    d) 20 x 10 x 5 cm

17. The depth of frog in a brick is
a) 15 mm
b) 10 mm
c) 6. 25 mm*
d) 3 mm

18. The base material for distemper is
a) Chalk*
b) Lime
c) Lime putty
d) Cement wash

19. Timber having maximum resistance against white ants is obtained from
a) Chir
b) Sheesham
c) Sal
d) Teak*

20. Linseed oil is used in Paints as a
a) Vehicle
b) Base
c) Drier*
d) Thinner

21. The lime which contains mainly calcium oxide and slacks with water, is known as

a) Fat lime
b) Quicklime*
c) Hydraulic lime
d) Poor line
22. The property by virtue of which lime sets under water is known as
a) Slacking
b) Setting
c) Hydraulicity
d) Calcining

23. Which of the following lime can set under water also
a) Fat Lime
b) Lean lime*
c) Hydraulic line
d) Quick lime

24. Granite is not suitable for ordinary building purpose because
a) It cannot be polished
b) It is not fireproof
c) It is costly*
d) It has less crushing strength

25. Which of the following stone is best suited for construction of piers and abutments of Railway Bridge
a) Granite*
b) Sandstone
c) Limestone
d) Quartzite

26. Which of the following trees yields hardwood
a) Deodar
b) Sheesham*/
c) Chir
d) Pine

27. In which of the following directions, the strength of timber is maximum
a) Parallel to grains*
b) 45 degree to grains
c) Perpendicular to grains
d) same in all directions

28. Which of the following ingredients of Brick earth enables the brick to retain its shape a) Alumina
b) Silica*
c) Iron

d) Magnesia

29. Number of bricks required for 1 cubic meter of brick masonry is
a)400
b) 450
c) 500*
d) 550

30. Quicklime is
a) Calcium carbonate
b) Calcium bicarbonate
c) Calcium oxide*
d) Calcium hydroxide

31. The main ingredients of Portland cement are
a) Lime and silica*
b) Lime and Alumina
c) Alumina magnesia
d) Silica and Alumina

32. After storage, strength of cement
a) Decreases*
b) Increases
c) Remains same
d) Depends upon the type of cement

33. The Most common admixture used to accelerate the initial setting of concrete is
a) Gypsum
b) Calcium chloride*
c) Calcium carbonate
d) Calcium bicarbonate

34. Which type of following cement is used for mass concrete work
a) High Alumina cement
b) Quick setting cement
c) Rapid hardening cement
d) Low heat cement*

35. Le Chatelier apparatus is used to determine which of the following properties for cement
A) Soundness*
b) Initial setting time
c) Compressive strength
d) Tensile strength

36. Which of the following constituents impart plasticity to brick earth
a) Alumina*
b) Silica
c) Lime
d) Magnesia

37. Hydraulic lime is not used in plastering because it may result in
a) Blistering*
b) Efflorescence
c) Flaking
d) Fluorescence

38. Seasoning of timber essentially involve
a) Strengthening of cells in Timber
b) Replacing the moisture content to a level below its fibre saturation point
b) Facilitating equal shrinkage in all directions so as to prevent warping
c) Preventing cracking due to defects and shakes

39. The commonly used lime in white washing is
a) Hydraulic lime
b) Slaked lime
c) Plain lime
d) White lime*

40. Distemper is used to coat
a) External concrete services
b) Internal surfaces not exposed to weather*
c) Woodwork
d) Compound walls

41. Putty is made up of
a) White lead and turpentine
b) Powdered chalk and raw linseed oil*
c) Red lead and linseed oil
d) Zinc oxide and boiled linseed oil

42. The approximate ratio between the strength of cement concrete at seven days and 28 days is
a) 3/ 4
b) 2/3*
c) 1/2
d) 1/3

43. Soundness test of cement is done to determine its
a) Durability in seawater
b) Free lime content*
c) Iron oxide content
d) Alumina content

44. The volume of a bag of cement in cubic meters is about
a) 0.035*
b) 0.35
c) 0.53
d) .053

45. Terracotta is used in buildings for
a) Storage
b) Insulation
c) Ornamental work*
d) Sewer pipe

46. Sand is mixed with lime to
a) Reduced cost
b) Reduced setting time
c) Prevent shrinkage and cracking*
d) Improve visual appearance

47. The setting and hardening of cement after addition of water is due to
a) Binding action of water
b) Evaporation of water
c) Hydration and hydrolysis of some constituent compounds of cement*
d) Additional hardening compounds added to cement

48. The constituent of cement which act as Binders are
a) Sand and silica
b) Silica and carbon
c) tricalcium silicate dicalcium silicate and carbon
d) tricalcium aluminate,dicalcium silicate and tricalcium silicate *

50. A slow setting cement will have higher percentage of
a) tricalcium aluminate
b) tricalcium silicate
c) Gypsum
d) Dicalcium silicate*

51. Dicalcium silicate
a) Hydrates rapidly

15 The capacity of automatic flushing cistern connected with one urinal shall be
(a) 05 litrs.
(b) 10 litrs.
(c) 12.5 litrs.
(d) None of these

16 The capacity of automatic flushing cistern connected with two urinal shall be
(a) 10 litrs.*
(b) 12.5 litrs.
(c) 05 litrs.
(d) None of these

17 The capacity of automatic flushing cistern connected with three urinal shall be
(a) 05 litrs.
(b) 10 litrs.
(c) 12.5 litrs.*
(d) None of these

18. The wash hand basin shall be fixed at a height of
(a) 75-80 cm*
(b) 75 cm
(c) 80 cm
(d) Not specified

19. Before discharging the foul sewage into rivers, it is generally treated by
(a) screening
(b) sedimentation
(c) Oxidation
(d) sludge digestion and disinfection
(e) all the above*

20**.** If the pH value of sewage is
(a) it is acidic
(b) it is alkaline
(c) it is neutral*
(e) None of these

21. Biochemical Oxygen Demand (BOD) of sewage is the
(a) Oxygen required to oxidise
(b) Oxygen required to oxidise biologically inactive organic matter*
(c) a and b both
(d) none of these

Principles of Surveying

1. Distance between two points is measured by
(a) Pacing
(b) Pedometer

(c) Passometer
(d) Chaining
(e) All the above*

2. The following instrument is used to set out a right angle
(a) Cross staff
(b) Optical staff
(c) Prism square
(d) None of the above
(e) All the above*

3. In order to do fly levelling the following type of methodology is adopted
(a) Rise & fall method
(b) Height of instrument method
(c) Both the above*
(d) None of the above

4 For locating an inaccessible point with the help of only a plane table, one should use
(a) traversing
(b) resection
(c) radiation
(e) Intersection*

5 The method of plane tabling commonly used for establishing the instrument station is a method of

(a) Radiation
(b) Intersection*
(c) Resection
(d) Traversing

6. A metallic tape is made of
(a) Steel
(b) Invar
(c) Linen
(d) Cloth & wires*

7. Dumpy level is most suitable when
(a) The instrument is to be shifted frequently
(b) Fly leveling is being done over long distance
(c) Many readings are to be taken from a single setting of the instrument*

(d) All of the above

8. Two contour lines, having the same elevation
   (a) Cannot cross each other
   (b) Can cross each other
   (c) Cannot unite together
   (d) Can unite together*

9. In setting up a plane table at any station
   (a) Leveling is done first
   (b) Centering is done first
   (c) Both leveling and centering are done simultaneously *
   (d) Orientation is done first

10. Contour interval on a map sheet denotes
   (a) Vertical distance of contour lines above the datum plane
   (b) Vertical distance between two successive contour lines
   (c) Slope distance between two successive contour lines
   (d) Horizontal distance between two successive contour lines

11. Theodolite is an instrument used for
   (a) Tightening the capstan-headed nuts of level tube
   (b) Measurement of horizontal angles only
   (c) Measurement of vertical angles only
   (d) Measurement of both horizontal and vertical angles*

12. A series of closely spaced contour lines represent a
   (a) Steep slope*
   (b) Gentle slope
   (c) Uniform slope
   (d) Plane surface

13. Three point problem can be solved by
   (a) Tracing paper method
   (b) Bessels method
   (c) Lehman"s method
   (d) All of the above*

14. The size of a plane table is
   (a) 750mm x 900 mm

(b) 600mm x 750 mm*
(c) 450mm x 600 mm
(d) 300mm x 450 mm

15. In a theodolite the line passing through the intersection of the horizontal and vertical cross hairs and the optical centre of the object glass and its continuation, is known as
(a) Horizontal axis
(b) Vertical axis
(c) Line of collination
(d) Line of sight
(e) Either of c or d above*

16. In a theodolite a condition arising when the image formed by the objective is not in the plane of cross hairs is known as
(a) Parallax*
(b) Out of sight
(c) Out of place
(d) Transiting
(e) Centring

17. Which of the following in theodolite work is imperfect adjustment of the instrument
(a) Error due to line of collimation being perpendicular to the horizontal axis
(b) Error due to axis not to perpendicular of the vertical axis
(c) Error due to imperfect graduation
(d) Error due to eccentricity of vernires
(e) All of the above*

Engineering Surveys and Project Reports

1. Which of the following survey are required to be done before the construction of new railway line.
(a) Traffic survey
(b) Reconnaessarice survey
(c) Preliminary survey
(d) Final location survey
(e) All the above *

2. Which of the instruments is not used in Reconnaissance survey.
   (a) Prismatic compass
   (b) Dumpy level *
   (c) Aneroid Barometer
   (d) Pedometer

3. Which of the instruments is not used in Preliminary survey.
   (a) Theodelite
   (b) Tacheometer
   (c) Dumpy level
   (d) Plane table
   (e) None of them*

4. While doing final location survey, the centre line is fully marked with pegs at --- metre distance
   (a) 10m
   (b) 20m*
   (c) 30m
   (d) 50m
5. The project report of final location survey gives tabulated statement of the following
   (a) Curve abstract
   (b) Gradient abstract
   (c) Bridge abstract
   (d) Important bridges
   (e) Station machinery
   (f) Stations and stations sites
   (g) All the above*

6. The project report of the reconnaissance survey should be accompanied by a map of the area at a scale of 1 cm= --- km.
   (a) 2.5 km
   (b) 5.0 km
   (c) 10.0 km
   (d) 15.0 km
   (e) 20.0 km*

7. The project report of the reconnaissance survey should be accompanied by Index map area at a scale of 1 cm = ---- km.
   (a) 2.5 km*
   (b) 5.0 km
   (c) 10.0 km
   (d) 15.0 km
   (e) 20.0 km

8. The purpose of reconnaissance survey
   (a) To determine technical fenibility of the line*
   (b) To assess whether such a line is required or not
   (c) To decide the final alignment of the railway line
   (d) None of the above

9. Traffic survey is done to find out
   (a) The most promising route for the railway in the area
   (b) The possible traffic the railway line will carry
   (c) Standard of railway line to be followed
   (d) All the above*

10. The survey instrument used for reconnaissance survey
   (a) Theodelite & Dumpty level
   (b) Prismatic compass & Aneriod barometer*
   (c) All the above
   (d) None of them

11. A detailed project report of the proposed railway line is made after
   (a) Preliminary survey
   (b) Reconnaissance survey
   (c) Final location survey*
   (d) Traffic survey

12. Survey of the major projects is done by
   (a) Chief Engineer
   (b) Chief Administrative Officer (CAO) construction*
   (c) Divisional Railway Manager
   (d) Railway Board

13. The index map of preliminary report should be to a scale of
   (a) 1 cm to 0.5 km
   (b) 1 cm to 1.0 km
   (c) 1 cm to 2.5 km*
   (d) 1 cm to 10.0 km

New Lines, Doublings & Gauge Conversion Projects

1. A new railway line is required to be constructed beaus' of following reasons
   (a) Strategic and political considerations
   (b) Development of backward area
   (c) To shorten existing rail link
   (d) Any of them*

2. In case of emergency, land can be acquired urgently by operation of special section
   (a) Section 4 & 6
   (b) Section 9 & 17*
   (c) Section 8 & 10
   (d) None of them

3. Formation width for banks for B.G. single line section is
   (a) 6.10 m
   (b) 6.50 m
   (c) 6.85 m*
   (d) 7.0 m

4. Formation width for cuttings for B.G. single line section is
   (a) 5.40 m
   (b) 6.20 m
   (c) 6.25 m*
   (d) 6.50 m

5. Formation width for bank for B.G. double line section is
   (a) 10.82 m
   (b) 11.0 m
   (c) 11.58 m
   (d) 12.155 m*

6. Formation width for bank for M.G. double line section is
   (a) 8.50 m
   (b) 8.84 m
   (c) 9.65 m
   (d) 9.81 m*

7. The centre to centre spacing formation width for double line section is

(a) 4725 mm
(b) 5025
(c) 5330*
(d) 5500

8. The number of standard rails (13 m) for one km. BG section single line section is
(a) 120
(b) 154*
(c) 168
(d) 196

9. Number of sleepers required having sleeper density of M+7 for one Km of BG single line is
(a) 1360
(b) 1540*
(c) 1660
(d) None of the above

10. Number of Elastic clips used for one K to BG single line section having 13 length & concrete sleepers of M+7 sleeper density are
(a) 5280
(b) 6160*
(c) 6250
(d) 6500

11. Gauge conversion means:
(a) Converting MG to BG
(b) Converting NG to MG
(c) Converting NG to BG
(d) Converting MG/NG to BG*

12. For new lines, width of formation in cutting for M.G. single line is
(a) 5.25 m*
(b) 5.85 m
(c) 6.25 m
(d) 6.85 m

13 For new lines, width of formation in bank for M.G. single line is

(a) 5.25 m
(b) **5.85 m***

(d) 100 on each P.F.

38. Norms for No. of seats at recommended level at Cat. D stn. is
(a) 0.4 Ndb
(b) 0.4 Nds*
(c) 0.4 Nmax
(d) 100 on each P.F.

39. Norms for No. of seats at recommended level at Cat. E stn. is
(a) 0.4 Ndb
(b) 0.4 Nds*
(c) 0.4 Nmax
(d) 100 on each P.F.

प्रश्न बैंक राजभाषा

प्रश्न ।.संसदीय राजभाषा समिति की कौन सी उप समिति रेल कार्यालयों का निरीक्षण करती है ?
(क) तीसरी
(ख) दूसरी *
(ग) पहली
(घ) कोई नहीं.

प्रश्न 2. संसदीय राजभाषा समिति में कुल कितने सदस्य होते हैं ?
(क) 10
(ख) 16
(ग) 30 *
(घ) 20

प्रश्न 3. संसदीय राजभाषा समिति में लोक सभा के कुल कितने सदस्य होते हैं ?
(क) 20 *
(ख) 30
(ग) 16
(घ) 10

प्रश्न 4. संसदीय राजभाषा समिति में राज्यसभा के कुल कितने सदस्य होते हैं ?
(क) 8
(ख) 4
(ग) 9
(घ) 10 *

प्रश्न 5. हिंदी दिवस कब मनाया जाता है ?

(क) 18 जून
(ख) 14 सितंबर *
(ग) 14 अक्तूबर
(घ) 15 जनवरी
प्रश्न 6. भारतीय संविधान सभा ने हिंदी को संघ की राजभाषा के रुप में कब अंगीकार किया था ?
(क) 26 जनवरी,1950
(ख) 14 सितंबर,1949 *
(ग) 15 मार्च,1976
(घ) 16 अक्तूबर,1952
प्रश्न 7. भारतीय संविधान के किस अनुच्छेद में राजभाषा आयोग के गठन के बारे में प्रावधान है ?
(क) अनुच्छेद 351
(ख) अनुच्छेद 346
(ग) अनुच्छेद 344 *
(घ) अनुच्छेद 120
प्रश्न 8. भारतीय संविधान के किस अनुच्छेद में हिंदी भाषा के विकास का प्रावधान है ?
(क) अनुच्छेद 210
(ख) अनुच्छेद 351 *
(ग) अनुच्छेद 120
(घ) अनुच्छेद 343
प्रश्न 9. भारतीय संघ की राजभाषा के बारे में संविधान के किस अनुच्छेद में प्रावधान किया गया है ?
(क) अनुच्छेद 351
(ख) अनुच्छेद 344
(ग) अनुच्छेद 343*
(घ) अनुच्छेद 120
प्रश्न 10. भारतीय संविधान की अष्टम अनुसूची में कितनी भाषाएं शामिल हैं ?
(क) 32
(ख) 22 *
(ग) 18
(घ) 15
प्रश्न 11. राजभाषा नियम,1976 के नियम-12 के अनुसार केंद्र सरकार के कार्यालयों में राजभाषा अधिनियम व नियमों का अनुपालन सुनिश्चित कराने की जिम्मेदारी किसकी है ?
(क) कर्मचारी
(ख) अधिकारी व कर्मचारी
(ग) राजभाषा अधिकारी
(घ) कार्यालय का प्रशासनिक प्रधान *
प्रश्न 12. धारा 3(3) के अंतर्गत जारी किए जाने वाले कागजात किन-किन भाषाओं में जारी किए जाते हैं ?
(क) हिंदी-उर्दू
(ख) हिंदी-अंग्रेजी *
(ग) हिंदी-पंजाबी

(घ) अंग्रेजी-तमिल
प्रश्न 13. धारा 3(3) के अंतर्गत जारी किए जाने वाले कागजातों को हिंदी-अंग्रेजी दोनों भाषाओं में जारी (क) करने का उत्तरदायित्व किसका हैं ?
कार्यालय प्रधान का
(ख) राजभाषा अधिकारी का
(ग) कागजात बनाने वाले कर्मचारी का
(घ) कागजात पर हस्ताक्षर करने वाले अधिकारी का *
प्रश्न 14. संसदीय राजभाषा समिति का गठन राजभाषा अधिनियम,1963 (यथासंशोधित 1967) की किस धारा के तहत किया गया है ?
(क) धारा 7
(ख) धारा 3
(ग) धारा 4 *
(घ) धारा 8
प्रश्न 15. संसद के दोनों सदनों द्वारा राजभाषा संकल्प किस वर्ष में पारित किया गया ?
(क) 1950
(ख) 1956
(ग) 1968 *
(घ) 1976
प्रश्न 16. रेलवे बोर्ड द्वारा काव्य लेखन के लिए कौन सा पुरस्कार प्रदान किया जाता है ?
(क) प्रेमचंद
(ख) मैथिलीशरण गुप्त *
(ग) राजीव गांधी
(घ) लाल बहादुर शास्त्री
प्रश्न 17.रेलवे बोर्ड द्वारा कथा-कहानी, उपन्यास लेखन के लिए कौन सा पुरस्कार प्रदान किया जाता है ?
(क) प्रेमचंद *
(ख) लाल बहादुर शास्त्री
(ग) मैथिलीशरण गुप्त
(घ) राजीव गांधी
प्रश्न 18. रेलवे बोर्ड द्वारा तकनीकी रेल विषयों पर हिंदी लेखन के लिए कौन सा पुरस्कार प्रदान किया जाता है ?
(क) राजीव गांधी
(ख) मैथिलीशरण गुप्त
(ग) लाल बहादुर शास्त्री *
(घ) प्रेमचंद

प्रश्न 19. रेल मंत्रालय द्वारा चलाई जा रही उस पुरस्कार योजना का नाम बताएं जो आम जनता और रेलकर्मियों दोनों के लिए उनके रेल यात्रा के दौरान हुए अनुभव को हिंदी में लिखने के लिए चलाई गई है ?
(क) रेल हिंदी निबंध पुरस्कार योजना
(ख) रेल यात्रा वृतांत पुरस्कार योजना *

(ग) राजभाषा गौरव पुरस्कार
(घ) राजीव गांधी पुरस्कार योजना
प्रश्न 20.राजभाषा गौरव पुरस्कार योजना किस मंत्रालय द्वारा संचालित की जाती है ?
(क) रेल मंत्रालय
(ख) गृह मंत्रालय *
(ग) रक्षा मंत्रालय
(घ) वित्त मंत्रालय
प्रश्न 21. राजभाषा नियम,1976 के संदर्भ में भाषिक क्षेत्र के हिसाब से अंडमान निकोबार द्वीप समूह किस क्षेत्र के अंतर्गत आता है ?
(क) क क्षेत्र *
(ख) ख क्षेत्र
(ग) ग क्षेत्र
(घ) इनमें से कोई नहीं
प्रश्न 22. राजभाषा नियम,1976 के संदर्भ में भाषिक क्षेत्र के हिसाब से दमण और दीप समूह किस क्षेत्र के अंतर्गत आता है ?
(क) क क्षेत्र
(ख) ख क्षेत्र *
(ग) ग क्षेत्र
(घ) इनमें से कोई नहीं
प्रश्न 23. राजभाषा नियम,1976 के संदर्भ में भाषिक क्षेत्र के हिसाब से चंडीगढ़ किस क्षेत्र के अंतर्गत आता है ?
(क) क क्षेत्र
(ख) ख क्षेत्र *
(ग) ग क्षेत्र
(घ) इनमें से कोई नहीं
प्रश्न 24. राजभाषा नियम,1976 के संदर्भ में भाषिक क्षेत्र के हिसाब से नागालैंड किस क्षेत्र के अंतर्गत आता है ?
(क) क क्षेत्र
(ख) ख क्षेत्र
(ग) ग क्षेत्र *
(घ) इनमें से कोई नहीं
प्रश्न 25. राजभाषा नियम,1976 के संदर्भ में भाषिक क्षेत्र के हिसाब से हिमाचल प्रदेश किस क्षेत्र के अंतर्गत आता है
(क) क क्षेत्र *
(ख) ख क्षेत्र
(ग) ग क्षेत्र
(घ) इनमें से कोई नहीं

प्रश्न 26. किसी कार्यालय को कितने प्रतिशत अधिकारी/कर्मचारियों के हिंदी का कार्यसाधक ज्ञान रखने पर अधिसूचित किया जा सकता है ?

(क) 100%
(ख) 80% *
(ग) 60%
(घ) 50%
प्रश्न 27. राजभाषा नियम,1976 के किस नियम के तहत किसी कार्यालय को हिंदी में काम करने के लिए अधिसूचित किया जा सकता है ?
(क) 8(4)
(ख) 7(2)
(ग) 10(4) *
(घ) 12
प्रश्न 28. राजभाषा नियम,1976 के नियम 5 के अंतर्गत क्या प्रावधान है ?
(क) अंग्रेजी में प्राप्त पत्रों के उत्तर हिंदी में देना
(ख) हिंदी में प्राप्त पत्रों के उत्तर हिंदी में देना *
(ग) हिंदी में प्राप्त पत्रों के उत्तर अंग्रेजी में देना
(घ) मूल पत्राचार हिंदी में करना
प्रश्न 29. उत्तर रेलवे प्रधान कार्यालय में गठित क्षेत्रीय राजभाषा कार्यान्वयन समिति की वर्ष में कितनी बैठकें आयोजित की जाती हैं ?
(क) 04 *
(ख) 03
(ग) 02
(घ) 01
प्रश्न 30. उत्तर रेलवे प्रधान कार्यालय में गठित क्षेत्रीय राजभाषा कार्यान्वयन समिति का अध्यक्ष कौन होता है ?
(क) मुख्य कार्मिक अधिकारी
(ख) महाप्रबंधक *
(ग) मुख्य राजभाषा अधिकारी
(घ) मुख्य सुरक्षा आयुक्त
प्रश्न 31. राजभाषा पखवाड़े का आयोजन किस माह में किया जाता है ?
(क) जून
(ख) सितंबर *
(ग) जुलाई
(घ) दिसंबर
प्रश्न 32. राजभाषा नियम,1976 के नियम 11 के अनुसार मैनुअल, संहिताएं,प्रक्रिया संबंधी अन्य साहित्य, लेखन सामग्री आदि किन-किन भाषाओं में होनी चाहिए ?
(क) हिंदी-अंग्रेजी *
(ख) केवल अंग्रेजी
(ग) केवल हिंदी
(घ) हिंदी-उर्दू
प्रश्न 33. राजभाषा नियम,1976 के अनुसार रजिस्टरों में प्रविष्टियां किस भाषा में की जानी चाहिए?
(क) अंग्रेजी

(ख) हिंदी *
(ग) उर्दू
(घ) पंजाबी
प्रश्न 34. 9वां विश्व हिंदी सम्मेलन वर्ष 2012 में कहां आयोजित किया गया था ?
(क) न्यूयार्क
(ख) जोहांसवर्ग *
(ग) टोकियो
(घ) बीजिंग
प्रश्न 35. क क्षेत्र में स्थित केंद्र सरकार के कार्यालय से क क्षेत्र में स्थित राज्य सरकार के कार्यालय को हिंदी में मूल पत्राचार का लक्ष्य क्या है ?
(क) 65%
(ख) 55%
(ग) 100% *
(घ) 90%
प्रश्न 36. भारतीय संविधान की अष्टम अनुसूची में इनमें से कौन सी भाषा शामिल नहीं है ?
(क) सिंधी
(ख) नेपाली
(ग) अंग्रेजी *
(घ) मणिपुरी
प्रश्न 37. राजभाषा कार्यान्वयन के लिए राजभाषा लक्ष्यों के अनुपालन हेतु प्रतिवर्ष एक वार्षिक कार्यक्रम जारी किया जाता है,इसे किस मंत्रालय द्वारा जारी किया जाता है ?
(क) रेल मंत्रालय
(ख) रक्षा मंत्रालय
(ग) गृह मंत्रालय *
(घ) वित्त मंत्रालय
प्रश्न 38. संघ की राजभाषा हिंदी की लिपि क्या है ?
(क) ब्रह्मी
(ख) रोमन
(ग) देवनागरी *
(घ) इनमें से कोई नहीं
प्रश्न 39. केंद्र सरकार के कार्यालयों में रबड़ की मुहरें किन-किन भाषाओं में होनी चाहिए ?
(क) हिंदी में
(ख) अंग्रेजी में
(ग) हिंदी-अंग्रेजी में*
(घ) प्रान्तीय भाषा में
प्रश्न 40. रेलमंत्री हिंदी निबंध प्रतियोगिता के अंतर्गत कितने पुरस्कार दिए जाते हैं
(क) 04 *
(ख) 06
(ग) 08
(घ) 10

प्रश्न 41. अंग्रेजी आशुलिपिकों को हिंदी में कार्य करने पर प्रतिमाह कितने रुपये का मानदेय दिया जाता है ?

(क) 120
(ख) 240
(ग) 150
(घ) 210

प्रश्न 42. मुख्य राजभाषा अधिकारी का नामन कितनी अवधि के लिए किया जाता है ?

(क) 02 वर्ष
(ख) 01 वर्ष
(ग) 04 वर्ष
(घ) 03 वर्ष

प्रश्न 43.मंडल राजभाषा कार्यान्वयन समिति का अध्यक्ष कौन होता है ?

(क) मंडल रेल प्रबंधक
(ख) अपर मंडल रेल प्रबंधक
(ग) राजभाषा अधिकारी
(घ) वरिष्ठ मंडल कार्मिकअधिकारी

प्रश्न 44.हिंदी पुस्तकालय का कार्य देखने के लिए अंशकालिक पुस्तकाध्यक्ष को प्रतिमाह कितने रुपये का मानदेय दिया जाता है ?

(क) 300 रुपये
(ख) 400 रुपये
(ग) 500 रुपये
(घ) 200 रु.

प्रश्न 45. हिंदी आशुलिपि का प्रशिक्षण किसके लिए अनिवार्य है ?

(क) हिंदी आशुलिपिक
(ख) अंग्रेजी आशुलिपिक
(ग) लिपिक
(घ) कार्यालय अधीक्षक

प्रश्न 46. रेलवे बोर्ड राजभाषा कार्यान्वन समिति की बैठक किसकी अध्यक्षता में आयोजित की जाती है ?

(क) अध्यक्ष रेलवे बोर्ड
(ख) सदस्य कार्मिक
(ग) रेलमंत्री
(घ) निदेशक/राजभाषा

प्रश्न 47. रेलवे हिंदी सलाहकार समिति की वर्ष में कितनी बैठकें आयोजित की जाती हैं ?

(क) 02
(ख) 03
(ग) 04
(घ) 01