



**VENKIS  
COACHING**

*Hard work beats luck...  
keep pushing forward!*



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## Railway Group D

# Solution

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## General Science & General Awareness

- Ans.1(B)** Bagh caves is in Madhya Pradesh  
**Ans.2(B)** Jawaharlal Nehru  
**Ans.3(D)** Sumant  
**Ans.4(B)** Diamond  
**Ans.5(B)** In 1761  
**Ans.6(C)** President  
**Ans.7(B)** Infrared  
**Ans.8(B)** Coating a Zinc on iron  
**Ans.9(C)**  
**Ans.10(C)** Indigo Disturbances  
**Ans.11(B)** Dadabhai Naorji  
**Ans.12(A)** Gujarat  
**Ans.13(D)** Kanishka  
**Ans.14(C)** Namdev  
**Ans.15(C)** Ibn Battuta  
**Ans.16(A)**  
**Ans.17(A)**  
**Ans.18(D)** Gallium-Ga  
**Ans.19(B)** Ornithophily  
**Ans.20(A)** Cheetah  
**Ans.21(B)** Decreases slightly  
**Ans.22(B)** The maximum numbers of Anglo Indians who can be nominated to the Lok Sabha is 2.  
**Ans.23(C)** Only in the event of equality of votes  
**Ans.24(D)** State Legislative Assemblies  
**Ans.25(C)** Union Home Minister Amit Shah virtually laid the foundation stone for a composite indoor shooting range (CISR).  
 The CISR will be constructed at the Sardar Vallabhbhai Patel National Police Academy (NPA). The event took place on the occasion of the 20th Foundation Day of the National Disaster Response Force (NDRF).  
 The 20th Foundation Day celebrations of the NDRF were held in Vijayawada.  
 CISRs are used to train military personnel to improve shooting skills and prepare for challenging scenarios.  
 These ranges are equipped with advanced target systems and control software.  
 CISRs are designed with several safety features to ensure secure training environments.  
**Ans.26(B)** The Indian Army's Motorcycle Rider Display Team, known as the "Daredevils," set a new world record.  
 The record was for creating the highest human pyramid on moving motorcycles.  
 The formation stood 20.4 feet tall and included 40 men on 7 motorcycles.  
 The team traveled a distance of 2 kilometers along Kartavya Path, from Vijay Chowk to India Gate in New Delhi.  
 This record-breaking performance will be repeated during the Republic Day parade on January 26.  
 The Daredevils are part of the Indian Army's Corps of Signals.  
 They have achieved 33 world records, including entries in the Guinness Book of World Records, Asia Book of Records, and Limca Book of Records.  
 The Daredevils team was formed in 1935. Since their inception, they have performed over 1,600 motorcycle displays across India.

- Ans.27(A)** Gyanendra Pratap Singh, Assam Police chief, has been appointed as the new Director General (DG) of the Central Reserve Police Force (CRPF).  
 The appointment was approved by the Appointments Committee of the Cabinet (ACC) following a proposal by the Union Home Ministry. Singh will serve as the CRPF chief until further orders or until his superannuation on January 31, 2027.  
 He has previously served in the Special Protection Group (SPG) and the National Investigation Agency (NIA), along with holding senior roles in the state police.  
 Prior to Singh's appointment, 1993-batch IPS officer Vitul Kumar was assigned additional charge of CRPF DG after the retirement of Anish Dayal Singh on December 31.  
 The CRPF is India's largest paramilitary force, with a strength of nearly 300,000 personnel.  
**Ans.28(D)** The World Monuments Fund (WMF) has included the Musi River Historic Buildings in Hyderabad on its World Monuments Watch list.  
 This inclusion highlights the urgent need for preservation amid environmental challenges and urban development.  
 The Musi River Historic Buildings were spotlighted alongside 24 other global sites in the recent list.  
 The Musi River is a key tributary of the Krishna River, originating in the Ananthagiri Hills, near Vikarabad, and flowing through Telangana. The river flows into two artificial lakes: Himayat Sagar and Osman Sagar, which were once major sources of drinking water for Hyderabad and Secunderabad.  
 The river was historically called Muchukunda and separates Hyderabad's Old City from its newer parts.  
 The Telangana government plans to conserve nearly 12 heritage structures.  
 Redevelopment is proposed under the Musi Riverfront Development Corporation Limited (MRDCL).  
 Projects for the State Central Library and British Residency are already underway.  
 The WMF has allocated \$2 million for preservation efforts.  
 Local partners will focus on research, education, and conservation planning.  
**Ans.29(C)** Flower sap  
**Ans.30(B)** 300gms  
**Ans.31(D)** 45-55 years  
**Ans.32(A)** The amount of biomass produced per unit area over a time period by plants during Photosynthesis.  
**Ans.33(B)** Pacemaker  
**Ans.34(B)** -40  
**Ans.35(B)** Myopia  
**Ans.36(C)** Keyboard  
**Ans.37(B)** Polarisation  
**Ans.38(B)** Theory of relativity  
**Ans.39(A)** Joseph Priestley  
**Ans.40(C)** Diamond  
**Ans.41(C)** Louis Pasteur  
**Ans.42(D)** Copper, zinc and nickel  
**Ans.43(B)** Hydrogen sulphide

- Ans.44(B)** Berhane Tesfay (Eritrea) won the men's race with a time of 2:11:44.  
Merhawi Kesete (Eritrea) finished second at 2:11:50.  
Tesfaye Demeke (Ethiopia) took third place with a time of 2:11:56.  
Joyce Chepkemoi Tele (Kenya) won the women's race in 2:24:56.  
Shitaye Eshete (Bahrain) finished second with a time of 2:25:29.  
Medina Deme Armino (Ethiopia) took third place in 2:27:58.  
Tesfay won \$50,000 for his victory.  
Tele's win was her second marathon victory in three months.

**Ans.45(A)** Sweden

## Mathematics

**Ans.46(C)**  $\frac{5-(-2)}{x-3} = -1$   
 $\frac{x-3}{x-3} = -1$   
 $7 = -x+3$   
 $x = -4$

**Ans.47(D)** Let side of square = a  
Radius of circle = r  
 $4a = 2\pi r$   
 $\frac{\pi}{2} = \frac{a}{r}$

Required ratio =  $\frac{a^2}{\pi r^2} = \frac{1}{\pi} \left(\frac{a}{r}\right)^2 = \frac{1}{\pi} \times \frac{\pi^2}{4} = \frac{\pi}{4} = \frac{22}{7 \times 4}$   
 $\frac{11}{14} = 11:14$

**Ans.48(A)** Distance b/w parallel lines  $\frac{7-(-8)}{\sqrt{3^2+4^2}} = \frac{15}{5} = 3$

**Ans.49(D)** Exterior angle of a regular polygon =  $\frac{360}{n}$   
Each exterior angle should be factor of 360

**Ans.50(C)** Area of trapezium =  $\frac{1}{2} \times 14.6 \times 4.5 = 32.85$

**Ans.51(A)**  $a+b = 2c$   
 $a-c = c-b = -(a-c) = b-c$   
 $\frac{a}{a-c} - \frac{c}{b-c} = \frac{a}{a-c} - \frac{c}{(a-c)}$   
 $\frac{a-c}{a-c} = 1$

**Ans.52(B)**  $\frac{a-c}{x-2+\frac{1}{x}} = \frac{1}{7}$   
 $x+\frac{1}{x}-2 = 14$   
 $x+\frac{1}{x} = 16$

**Ans.53(C)**  $(y+\frac{1}{2y}) \times 2 = 4 \times 2$   
 $2y + \frac{1}{y} = 8$   
 $8y^3 + \frac{1}{y^3} + 3 \times 2y \times \frac{1}{y} (2y + \frac{1}{y}) = 8^3$   
 $8y^3 + \frac{1}{y^3} = 5/2 - 6 \times 8 = 464$

**Ans.54(D)**  $\frac{1+\tan 18^\circ}{1-\tan 18^\circ} \cdot \frac{\tan 45^\circ + \tan 18^\circ}{1-\tan 45^\circ + \tan 18^\circ}$   
 $\tan (45^\circ + 18^\circ) = \tan 63^\circ$

**Ans.55(A)**  $\frac{1}{2} \cos 15^\circ : 2 \sin 7\frac{1}{2}^\circ : \cos 7\frac{1}{2}^\circ$   
 $\frac{1}{2} \cos 15^\circ : \sin 15^\circ$   
 $\frac{1}{4} \times \sin 30^\circ = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

**Ans.56(C)**  $\cos^2 (90^\circ - 70^\circ) + \cos^2 70^\circ$   
 $\sin^2 70^\circ + \cos^2 70^\circ = 1$

**Ans.57(B)** Sum =  $\frac{1}{2} (2 \times 413 + (9-1) \times 18) = \frac{9}{2} \times 970 = 4365$

**Ans.58(D)** H.C.F = 12

**Ans.59(A)**  $\frac{a^2-b^2}{a+b} = a-b$   
 $(1+\frac{1}{100}) - (1-\frac{1}{100})$

$$\frac{201}{101} - \frac{1}{101} = \frac{200}{101}$$

**Ans.60(D)**  $1 - \frac{1}{12} = \frac{11}{12}$

**Ans.61(B)**  $y = 1 + \frac{1}{y}$

$$y^2 = y+1$$

$$y^2 - y - 1 = 0$$

**Ans.62(C)**  $3^4$  gives unit digit

$(34)^{24}$  gives unit digit

$3^3$  gives unit digit 7

$3^{99} = [(34)^{24} \times 3^3]$  gives unit digit  $(1 \times 7) = 7$

**Ans.63(B)** Required ratio = 5 : 4

Cost of table at which he gain 7.5% =  $\frac{1431}{(5+4)}$

= Rs.795

**Ans.64(C)** Age of class teacher = 19+40

= 59 years

**Ans.65(D)**  $1066 - 391 + 89 - x = 27$

$$764 - 27 = x$$

$$X = 737$$

**Ans.66(C)** Relative speed =  $64 - 8 = 72$  kmph

$$= 72 \times \frac{5}{18} = 20 \text{m/s}$$

Time it will take to pass man =  $130/20$

= 6.5 seconds

**Ans.67(D)** Let the age of younger person is x,

Then elder person's age is  $(x+18)$

=  $3(x-8) = (x+18-8)$  [ 8 years before

=  $3x - 24 = x + 10$

=  $x = 17$

So, the age of elder person, =  $x+18 = 35$  years

Let C = x.

Then B =  $x/2$

So, A =  $x/4$

A:B:C = 1:2:4

C's share =  $[(4/7) \times 6251] = \text{Rs. } 3572$

**Ans.69(D)** The tank will completely filled =

$$\frac{(24 \times 40 \times 30)}{(40 \times 30 + 24 \times 30 - 24 \times 40)} = 30 \text{ minutes}$$

**Ans.70(A)** Average speed =  $\frac{(10+5)(10-5)}{10} = 7.5$  km

## General Intelligence and Reasoning

**Ans.(71-74)** Row 1 Ajeet Dhavan Chand Vacant Brij  
Row 2 Parthiv Vacant Rahul Sunil Qasim

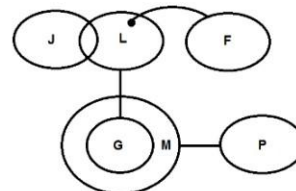
**Ans.71(B)**

**Ans.72(C)**

**Ans.73(D)** Only Sunil is sitting in middle rest are sitting at corner.

**Ans.74(C)**

**Ans.(75-77)**



**Ans.75(D)**

**Ans.76(B)**

**Ans.77(C)**

**Ans.78(B)**  $437 - 23 + 18 \times 161 \div 258 = 245$

After sign change

$$437 + 23 + 18 + 161 - 258 = 245$$

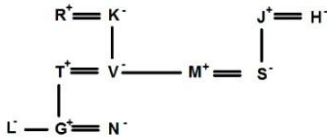
Given word does not have "K".

**Ans.79(D)**

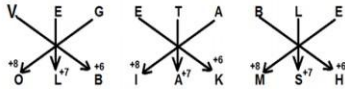
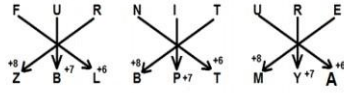
**Ans.80(D)**

**Ans.81(A)**

Ans.(82-84)



Ans.82(B)  
Ans.83(B)  
Ans.84(C)  
Ans.85(B)



Ans.86(C)  
Ans.87(D)  
Ans.(88-90)

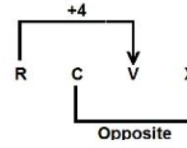
$$214 \times (2+1+4) = 149888$$

$$243 \times (2+4+3) = 2187$$

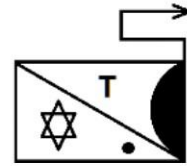
Word	Code
Arun	fjg
Walk	rms
Slowly	phk
Train	pri
Runs	rft
fast	akn

Ans.88(C)  
Ans.89(A)  
Ans.90(D)  
Ans.91(D)  
Ans.92(D)  
Ans.93(D)

Except "C" all have many seeds.  
Except "D" all are square of number.  
Except "D" all follow given pattern.



Ans.94(B)  
Ans.95(C)  
Ans.96(D)  
Ans.97(A)  
Ans.98(C)  
Ans.99(B)



Ans.100(D)

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