MADE EASY received requests from students appeared in BPSC-2019, Assistant Engineer (Mains) to suggest the correct answer and supporting evidence to help students to challenge the answers provided by BPSC. Therefore, we are suggesting appropriate changes and proof as mentioned in the list given below, however students are requested to make their own decision to challenge or not for any or all the suggested changes by us.

B. Singh

CMD, MADE EASY Group

पत्र–1

सामान्य हिन्दी

(वस्तुनिष्ठ)

प्रश्न–पुस्तिका श्रृंखला–A

क्र0 सं0	प्रश्न संख्या	औपबंधिक आदर्श उत्तर	उम्मीदवार द्वारा सुझाया गया उत्तर	आपत्ति का आधार/स्रोत/साक्ष्य
1	60	B	B and C	Reference: **मितभाषी meaning in hindi** [वि.] - आवश्यकतानुसार बोलने वाला; अपेक्षाकृत कम बोलने वाला; नपे-तुले शब्दों में अपनी बात कहने वाला। http://www.hindi2dictionary.com/%E0%A4%AE%E0%A4%BF%E0%A4%A4%E0%A4%AD%E0%A4%BE%E0%A4%B7%E0%A5%80-meaning-hindi.html
2	83	C	B and C	Reference: नालन्दा सामान्य हिन्दी – डॉ. पृथ्वी नाथ पाण्डेय (पृष्ठ संख्या 159) उन्तीसवां संस्करण

Paper-III

GENERAL STUDIES

(Objective)

SET-C

क्र0 सं0	प्रश्न संख्या	औपबंधिक आदर्श उत्तर	उम्मीदवार द्वारा सुझाया गया उत्तर	आपत्ति का आधार/स्रोत/साक्ष्य
1	31	A	A and B	Note: **Neither Himgiri nor Himadri research station is located in Antarctica.** **(But option b should be most appropriate answer.)** https://en.wikipedia.org/wiki/Himadri_Station
2	84	C	B and C	Note: **Excessive alcohol consumption depletes both potassium and magnesium.** • A doctor may draw blood to evaluate your liver functions, check for the presence of anemia, and/or electrolyte imbalance (blood chemistry levels). Alcoholic individuals often have elevated liver function tests, which indicate liver damage. Gamma glutamyl transferase (GGT) is the most sensitive liver function test. It can be elevated after only a few weeks of excess alcohol consumption. Alcohol-dependent people may also have anemia (low blood cell count), as well as electrolyte disturbances including low potassium, low magnesium, and low calcium. • Often the initial visit with a doctor is for medical or surgical complications of alcohol consumption. In those cases, the doctor will perform and order additional tests depending on the symptoms (for example, abdominal problems, heart failure, alcohol withdrawal, or cirrhosis). https://www.emedicinehealth.com/alcoholism/article_em.htm#how_do_health-care_professionals_diagnose_alcoholism

आपत्ति प्रपत्र

सहायक अभियंता (प्रारंभिक) प्रतियोगिता परीक्षा, विज्ञापन संख्या .....

अनुक्रमांक ..... नाम ..... विषय ..... प्रश्न पुस्तिका श्रृंखला .....

Paper-IV

GENERAL ENGINEERING SCIENCE

SECTION-I

(Objective)

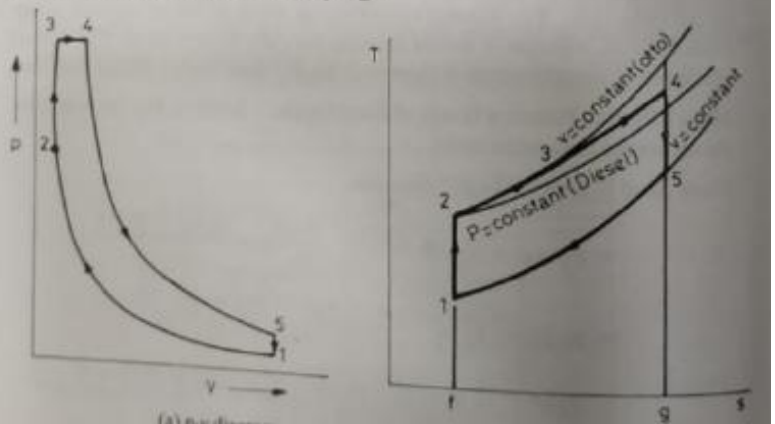
SET-D

क्र0 सं0	प्रश्न संख्या	औपबंधिक आदर्श उत्तर	उम्मीदवार द्वारा सुझाया गया उत्तर	आपत्ति का आधार/स्रोत/साक्ष्य
1	13	A	None	Note: The given data in the question is incomplete. Hence answer cannot be given.
2	31	C	D	Note: In the given question, it is not mentioned whether it is Friction factor or Coefficient of friction. If nothing is clearly specified. Generally, we consider friction factor during solving the problem. Friction factor = 4 × coefficient of friction Hence the correct answer would be (D).

3	37	C	B	Reference: M.L. Mathur and R.P. Sharma (Internal Combustion Engine)

2.12 THE DUAL COMBUSTION OR MIXED OR LIMITED PRESSURE CYCLE

The theoretical cycle of modern high speed diesel engines is more adequately represented by what is called the dual combustion or limited pressure cycle, shown in Fig. 2.13. In this cycle, part of the heat addition is at constant volume and remainder at constant pressure. The remaining processes are same as in Otto or Diesel cycles. The name dual combustion is derived from the fact that it incorporates into it the features of both Otto and Diesel cycles. The term dual cycle should be avoided as it may cause confusion with dual fuel cycle. Heat addition at constant volume tends to increase the efficiency of the cycle whereas switching over to constant pressure heat addition limits the maximum pressure. Hence this cycle is also called limited pressure cycle. It is clear that with high compression ratios of diesel engines, if all heat is supplied at constant volume the maximum pressure would be very high.



(a) p-v diagram (b) T-s diagram

Fig. 2.13. Dual or mixed or limited pressure cycle.

It can be seen from Eqn. (2.29b) that a value of pressure ratio $\alpha > 1$ results in an increased efficiency for given value of ρ and γ. Thus, the efficiency of a limited-pressure cycle is intermediate between those of the Otto cycle and Diesel cycle having the same compression ratio. If we substitute $\rho = 1$ in Eq. (2.29b) it becomes Otto cycle, and with $\alpha = 1$ it becomes Diesel cycle.

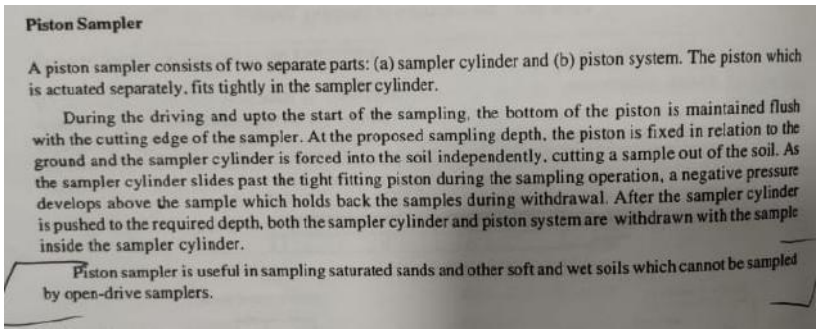
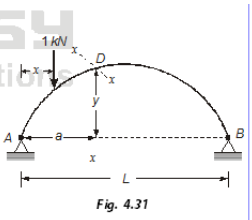
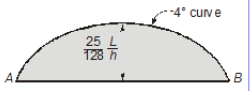
Paper-V

CIVIL ENGINEERING

SECTION-I

(Objective)

SET-D

क्र0 सं0	प्रश्न संख्या	औपबंधिक आदर्श उत्तर	उम्मीदवार द्वारा सुझाया गया उत्तर	आपत्ति का आधार/स्रोत/साक्ष्य
1	5	B	C	Reference: Gopal Ranjan and A.S.R. Rao (Basic and Applied Soil Mechanics)  **Piston Sampler** A piston sampler consists of two separate parts: (a) sampler cylinder and (b) piston system. The piston which is actuated separately, fits tightly in the sampler cylinder. During the driving and upto the start of the sampling, the bottom of the piston is maintained flush with the cutting edge of the sampler. At the proposed sampling depth, the piston is fixed in relation to the ground and the sampler cylinder is forced into the soil independently, cutting a sample out of the soil. As the sampler cylinder slides past the tight fitting piston during the sampling operation, a negative pressure develops above the sample which holds back the samples during withdrawal. After the sampler cylinder is pushed to the required depth, both the sampler cylinder and piston system are withdrawn with the sample inside the sampler cylinder. Piston sampler is useful in sampling saturated sands and other soft and wet soils which cannot be sampled by open-drive samplers.
2	35	C	None	Note: There is no such thing as immediate vertical stiffeners as given in choice (C), hence the correct answer would be intermediate vertical stiffeners, which is not given.
3	40	D	None	Reference: MADE EASY Theory Book (Structural Analysis) **4.8 Influence for Two Hinged Arches** **4.8.1 ILD for Horizontal Thrust (*H*)** The horizontal thrust due to a concentrated load *W* at a distance *x* from end *A* is given by, $H = \frac{5}{8}\frac{W}{L^3 h}x(L-x)(L^2+xL-x^2)$ If $W = 1$ kN Then $H = \frac{5}{8hL^3}x(L-x)(L^2+xL-x^2)$ $\Rightarrow H = \frac{5}{8h}x\left(1-\frac{2x^2}{L^2}+\frac{x^3}{L^3}\right)$ (4°-curve)  Fig. 4.31 
4	42	B	D	Note: If a certain member of truss is having some value and nature of stresses when the load is moving on top chord then it is possible that same members may have different magnitude and nature if the load is moving on bottom chord.

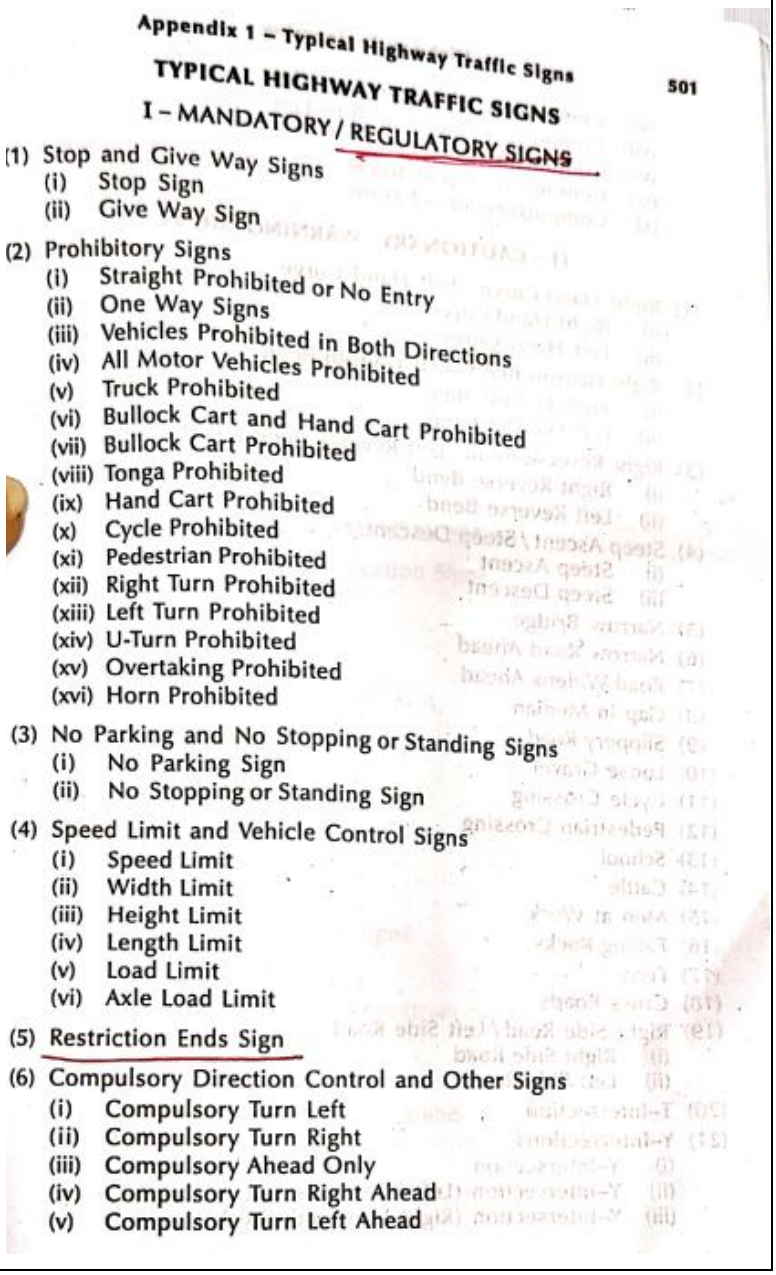
Paper-VI

CIVIL ENGINEERING

SECTION-I

(Objective)

SET-D

क्र0 सं0	प्रश्न संख्या	औपबंधिक आदर्श उत्तर	उम्मीदवार द्वारा सुझाया गया उत्तर	आपत्ति का आधार/स्रोत/साक्ष्य
1	3	C	A	Reference Link: Rangwala (Highway Engineering) 

Appendix 1 – Typical Highway Traffic Signs 501

TYPICAL HIGHWAY TRAFFIC SIGNS

I – MANDATORY / REGULATORY SIGNS

(1) Stop and Give Way Signs
- (i) Stop Sign
- (ii) Give Way Sign

(2) Prohibitory Signs
- (i) Straight Prohibited or No Entry
- (ii) One Way Signs
- (iii) Vehicles Prohibited in Both Directions
- (iv) All Motor Vehicles Prohibited
- (v) Truck Prohibited
- (vi) Bullock Cart and Hand Cart Prohibited
- (vii) Bullock Cart Prohibited
- (viii) Tonga Prohibited
- (ix) Hand Cart Prohibited
- (x) Cycle Prohibited
- (xi) Pedestrian Prohibited
- (xii) Right Turn Prohibited
- (xiii) Left Turn Prohibited
- (xiv) U-Turn Prohibited
- (xv) Overtaking Prohibited
- (xvi) Horn Prohibited

(3) No Parking and No Stopping or Standing Signs
- (i) No Parking Sign
- (ii) No Stopping or Standing Sign

(4) Speed Limit and Vehicle Control Signs
- (i) Speed Limit
- (ii) Width Limit
- (iii) Height Limit
- (iv) Length Limit
- (v) Load Limit
- (vi) Axle Load Limit

(5) Restriction Ends Sign

(6) Compulsory Direction Control and Other Signs
- (i) Compulsory Turn Left
- (ii) Compulsory Turn Right
- (iii) Compulsory Ahead Only
- (iv) Compulsory Turn Right Ahead
- (v) Compulsory Turn Left Ahead

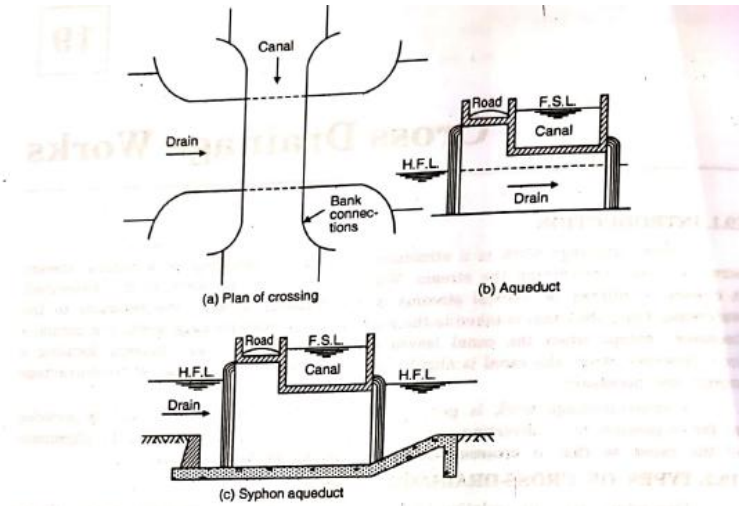
<table>
<tr>
<td>2</td>
<td>14</td>
<td>A</td>
<td>A and B</td>
<td>Reference: Santosh Kumar Garg
(Irrigation Engineering and Hydraulic Structures)
 

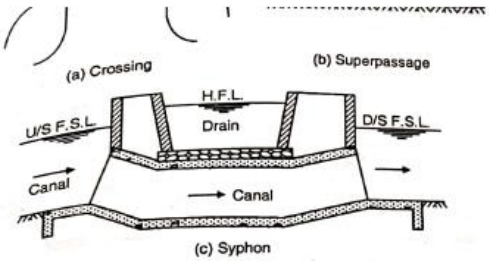
FIG. 19.1. AQUEDUCT AND SYPHON AQUEDUCT.
(II) C.D. Works carrying drainage over the canal
In this type of C.D. work, drainage is carried over the canal (Fig. 19.2). The advantage of this type is that the C.D. works themselves are less liable to damage than the earth-work of the canal.
The major disadvantage of this work is that the perennial canal is not open to inspection. Also, if the silt is deposited in the barrels of the work, it is difficult to clear it out.
The structures that fall under this type are
1. Super-passage 2. Canal syphon.
Fig. 19.2(b) shows a super-passage. A super-passage is similar to an aqueduct, except that in this case the drain is over the canal. The F.S.L. of the canal is lower than the underside of the trough carrying drainage water. Thus, the canal water runs under gravity. Fig. 19.2(c) shows a canal syphon, or simply syphon. In this, case, the levels are such that the F.S.L. of the canal is much above the bed level of the drainage trough, so that the canal runs under syphonic action under the trough. The canal bed is lowered and a ramp is provided at the exit so that the trouble of silting is minimised.
 

FIG. 19.2. SUPER-PASSAGE AND SYPHON.</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>A</td>
<td>B</td>
<td>Reference: Santosh Kumar Garg
(Water Supply Engineering)
327
threshold odour number. Thus, if 40 ml sample of water is diluted to make 200 ml (till it just looses its taste or odour) ; then the threshold odour number will be 5. For public supplies, the water should generally be free from odour, i.e., the threshold odour number should be 1 and should never exceed 3.
In routine examination of public supplies, odour is generally determined when water is cold ; although, however, it may change with change in temperature, sometimes not being noticeable when cold. In thorough analysis of water, however, odour should be determined at different temperatures, and results produced in tabulated form. Such analysis may help in revealing the biological history of water.
Temperature. Testing the temperature of</td>
</tr>
</table>